



OVERSEAS NEWS

# Hungarian party outlines policies for reconstruction

By Judy Dempsey in Budapest

THE Democratic Forum (MDF), the Hungarian opposition group which is widely expected to be in government next year, has settled on a political programme calling for economic reconstruction through privatisation and foreign investment and also for a loosening of ties with the Warsaw Pact.

The programme, agreed after a three-day convention, was described as reflecting Hungary's liberal, Christian Democratic and rural traditions.

The Forum, tipped to gain a majority of seats in next year's free parliamentary elections, outlined its policies amid growing controversy as to how and when Hungary's next President will be chosen.

A recent agreement between the ruling Communists - who recently proclaimed themselves a Western-style Socialist party - and several opposition groups, including the MDF, provides for the head of state to be chosen by direct elections next month.

But the small Association of Free Democrats, which fears that the short campaign will

give the ruling party an unfair advantage, has already collected 250,000 signatures on a call for the president to be chosen at a later date, to be decided on by referendum.

The Free Democrats would also prefer the new head of state to be elected by the new parliament, rather than by universal suffrage.

At the weekend, despite earlier suggestions that the MDF might support the presidential bid of Mr Imre Pozsgay, the most prominent reformer in the ruling party, the convention overwhelmingly elected Mr Lejos Fur, a little-known 53-year-old historian, as its presidential candidate.

MDF officials yesterday said that given the anti-communist mood in the country, it was wise for the party to distance itself from Mr Pozsgay.

As expected, the convention also elected Mr Jozsef Antall, another historian, as its leader.

Mr Antall, a politician finely attuned to Hungary's traditions of compromise and pragmatism, declined to say which parties the MDF was prepared

# First ANC rally for 29 years permitted

By Michael Holman

THE South African government has given approval for the first African National Congress (ANC) rally in 29 years.

The decision, which was made known as Mrs Margaret Thatcher and the rest of the Commonwealth leaders meeting in Kuala Lumpur, were differing sharply over policy towards South Africa, is likely to reinforce the British prime minister's view that President F.W. de Klerk is initiating significant changes.

Permission for next Saturday's rally in Soweto, to be addressed by Mr Walter Sisulu and the six other ANC presidents released a week ago, marks a further step in the de facto unbanning of the organisation.

For its part, the ANC appears to have suspended its guerrilla campaign against Pretoria, although its officials have yet to spell this out. There have been no reported violent incidents linked to the ANC's military wing, Umkhonto we Sizwe, for nearly two months.

These mutual concessions have brought the two sides closer to direct talks, although negotiations are not expected to take place until Mr Nelson Mandela, the ANC leader, is released.

Saturday's ANC rally will be the first since the organisation was banned in 1960.

"Apart from being a welcoming party, the rally is going to be an occasion at which our leaders will be making a major address to the nation on a whole range of issues," Mr Cyril Ramaphosa, secretary-general of the National Union of Mineworkers, said at the weekend.

Mr Ramaphosa said the National Reception Committee, which is organising the public appearances of the released detainees, had not sought government permission for the rally, to be held in a new soccer stadium near Soweto.

But letters had been sent to Mr de Klerk, as well as to the Minister of Justice and to the chief magistrate of Johannesburg, informing them of the plans.

# Pretoria shift may be attainable

The following are the key points in the statement "Southern Africa: the way ahead", issued at the Commonwealth summit yesterday:

Heads of government continued to view the system of apartheid in South Africa as a serious challenge to the values and principles of the Commonwealth and reaffirmed that its total eradication remained their shared responsibility and common goal.

Significant changes in approach on the part of the South African government, for which the Commonwealth had striven for so long, may yet prove to be within reach.

Heads of government agreed that such encouraging signs as there had been were very much the product of a combination of internal and external pressures.

They agreed that the only justification for sanctions against South Africa was the pressure they created for fundamental political change. Their purpose was not punitive, but to abolish apartheid by bringing Pretoria to the negotiating table and keeping it there until that change was irreversible.

Heads of government, other

than Britain, also acknowledged that the impact of sanctions had begun to influence the policies of the South African government.

Commonwealth heads of government expressed the view that this was not the time to consider any relaxation of existing sanctions and pressures. That would have to await evidence of clear and irreversible change.

In the meantime, they agreed that all existing sanctions and measures should be maintained, and they called upon the wider international community to do likewise.

They also agreed, with the exception of Britain, that such measures should be tightened,

objectives and common goals for improving the environment but, at Britain's instigation, avoided specific commitments on funding.

Britain opposed the establishment of a special fund and Malaysia had made it clear it would be flexible on this point.

Commonwealth leaders pledged themselves to "immediate and positive action" in support of their declaration.

Heads of government recognised the importance of South Africa's dealings with the international financial community and therefore, with the exception of Britain, endorsed the establishment of an independent agency to review and report on South Africa's international financial links on a regular basis, and to gather and publicise factual information on financial flows to and policies towards South Africa. They welcomed the offer of Australia to provide substantial initial funding.

They agreed to ask appropriate international financial institutions, and in particular the International Monetary Fund, to examine how resources might be mobilised upon evidence of clear and irreversible change.

With the exception of Britain, heads of government commended the Commonwealth committee of foreign ministers... agreed that it should continue with its work... and that it report again when heads of government meet next. They expressed the wish that it reconvene in April, some six months after the new administration in Pretoria took office.

# Austere Berlin church becomes rallying point for reformers

By Leslie Collett in East Berlin

A RED-BRICK Protestant church in a working-class area of Berlin has become a rallying point for East Germany's reform movement - not unlike the Gdansk shipyard in the early days of the Solidarity trade union.

Just as the yard was often off limits for Polish authorities, there is a widening "no-go area" for the East German police around the large, austere Gethsemane church.

Thousands of formerly passive citizens, radicalised by this month's demonstrations, gathered over the weekend at the turn-of-the-century building. It became a haven for demonstrators, pursued by baton-wielding police, after the first big demonstrations in the current wave of protest on October 7 and 8.

Paradoxically, the atmosphere is less overtly religious than it was at the Polish shipyard. In contrast to fervent masses recited by Gdansk workers, there are few who would normally be worshippers among crowds streaming into the Gethsemane church every evening to attend services calling for release of political prisoners.

One of their purposes is to exchange information. Strangers open up to each other in the flickering light from thousands of candles placed outside the gable edifice.

"I applied to emigrate in 1966 and lost my job," an ex-employee of a state bakery told a knot of people. "A few weeks ago I joined New Forum [opposition group] when I saw the demonstrations getting bigger and stronger. I've come here every day since." He no longer

wanted to emigrate because "for the first time" there was a chance to change things. "Don't think the Party is going to change," a young carpenter replied. "It has specialised for 40 years in keeping power and won't step down now."

What did they expect from the new leader, Mr Egon Krenz? "We want our opinions to count," said a mechanic. "It wouldn't cost the Party anything. Most people don't want more than a little freedom to travel - at least for the time being," he added.

A major pro-reform demonstration is due to take place today in Leipzig after a week-end of renewed protests throughout East Germany. Last Monday's demonstration by over 100,000 citizens in Leipzig was the largest in East Germany since 1963.

# Why Britain stood alone on S Africa

Extracts from the British statement, entitled "Southern Africa: the way ahead":

Britain is fully at one with the rest of the Commonwealth in utterly condemning apartheid and wishing to see its total eradication... Britain welcomes the recognition in the Kuala Lumpur statement: that change is under way in South Africa; that sanctions should not be punitive and that the international community will need to respond to evidence of clear and irreversible change; and that both sides should come to the negotiating table in an atmosphere free of violence from either side.

But Britain believes the Commonwealth can help a new South Africa to emerge in much more positive ways that those set out in the Kuala Lumpur Agreement.

In Britain's view there have been important and positive changes in South Africa... and there is now a government fully committed to the concept of negotiations.

The Commonwealth should concentrate now on encouraging change rather than on further punishment. Whatever their intention, the effect of sanctions is punitive. Sanctions contribute to poverty and misery. Britain's efforts are directed to helping relieve poverty throughout Africa.

Britain does not agree that sanctions have the political effects claimed for them. The political effect of sanctions is to increase resistance to change rather than encourage change. Opening the way to serious negotiations requires: the release of Nelson Mandela and all political prisoners; lifting of the state of emergency; unbanning of political organisations; the suspension of violence.

As and when South Africa does take the necessary steps then it would be right to lift some of the measures imposed by the international community. The aim should be to secure positive influence with the South African government

rather than add to the sanctions which have been largely fruitless.

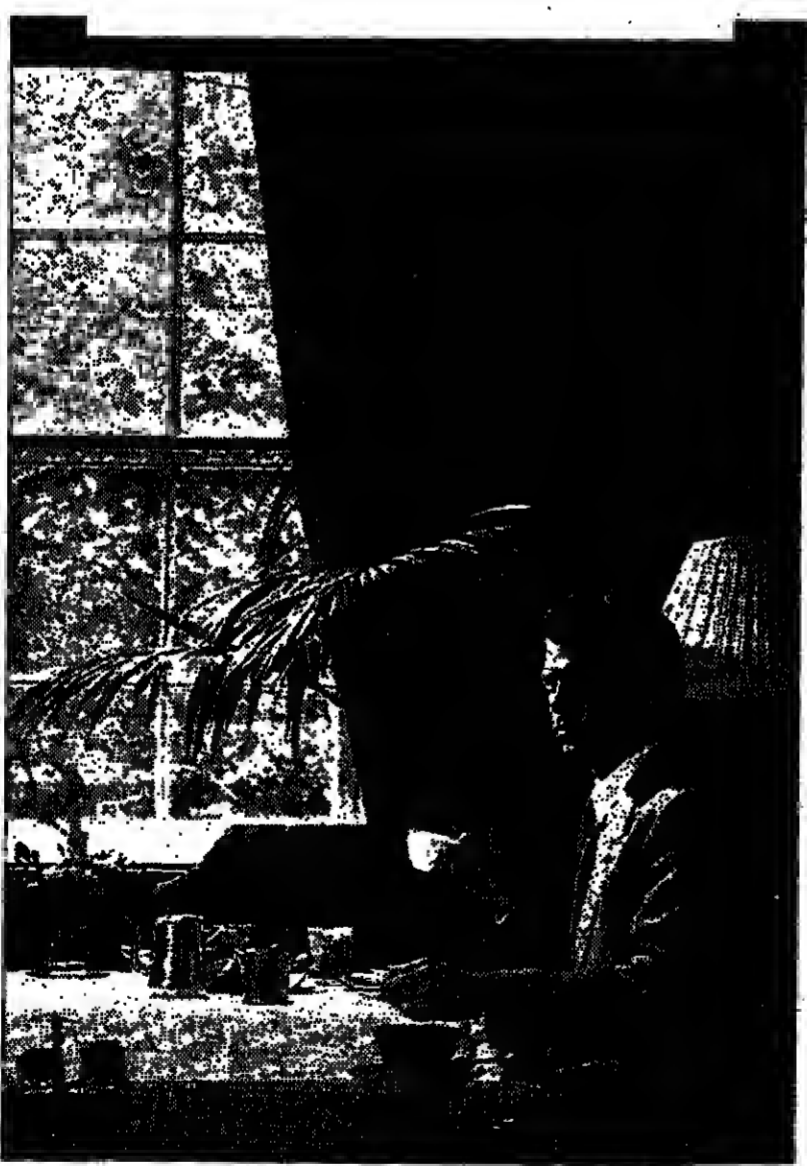
At the same time, Britain will continue its substantial programme of positive help for black South Africans, and its assistance to the front line states, which since 1980 has totalled £1.1bn.

Britain also gives its unequivocal support to the UN Secretary-General in securing the implementation of Resolution 435 in Namibia. It will be for him and his representative alone to judge whether the elections are fully fair and free.

Britain is ready to provide financial assistance to an independent Namibia as well as, if asked, military training for its armed forces.

Britain believes that recent developments in southern Africa show that progress can be made by peaceful negotiation. Britain wants the Commonwealth and the international community to redouble their efforts to support peaceful change and enable the new South Africa to inherit a strong economy.

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“I ENJOY WORKING AND I LIKE BREAKFAST BUT I NEVER MIX THE TWO.”

I've always wondered how people can talk about business when what they're really concentrating on is getting the right amount of butter on their toast.

To me a working breakfast, or one that works for me, is a breakfast that gives me time to compose myself and relax before the day begins.

This morning was perfect. I told the waiter when I had to leave, everything came in plenty of time without my having to ask for it and I didn't have to talk to another soul until I'd finished.

By the time I'd left the Marriott I was ready for anyone.



OVERSEAS NEWS

# Opposition staff arrested ahead of Zimbabwe poll

By Julian Borger in Harare

THE Zimbabwean government has carried out a wave of arrests in advance of four parliamentary by-elections which take place this week.

The arrests include officials of the opposition Zimbabwe Unity Movement, formed this year, which has mounted an energetic challenge to President Robert Mugabe's ruling ZANU-PF party.

ZUM's campaign in the northern constituency of Kariba has been handicapped since the detention by the Central Intelligence Organisation of 11 activists in the area.

Ten days ago, another group of ZUM party workers returned to Harare from Kariba having apparently been severely beaten. They say they were assaulted by ZANU-PF youths.

The crackdown began on the university campus, where the arrest of two student leaders for publishing a document fiercely critical of the government led to student riots on October 4, and the closure of the campus for the first time in its 32-year history. It reopened for examinations today but 13 students are still in custody, having been refused bail.

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# Shrinking Euphrates raises Turkish-Syrian tension

Scheherazade Daneshkhu and Andrew Gowers see water becoming a weapon in the Kurdish dispute

LONG-SIMMERING tensions between Turkey and Syria have burst into the open in the last few weeks, throwing the spotlight on that most sensitive of Middle Eastern issues: the scarcity of water.

Not for the first time, what is arguably the region's most valuable resource is being used as a strategic weapon in the old dispute between the two neighbours over the Kurdish issue.

The question has been brought into focus by an extraordinary outburst from Mr Turgut Ozal, the Turkish Prime Minister who is now running for president. This month, he accused Damascus of breaching a 1987 protocol on security and threatened to cut the flow of the Euphrates river into Syria unless the latter ended support for the Marxist Kurdish Workers Party (PKK).

Given the prime minister's current political troubles, his remarks may well have been aimed at his domestic audience as much as his southern neighbour. But the statement touched a raw nerve in Turkish-Syrian relations at a time of severe drought problems in both countries and a growing Kurdish rebellion in south-eastern Turkey. It may also have provided an ominous foretaste of problems to come between the states sharing the waters of the Euphrates.

Nearly 90 per cent of the



after conducting raids in Turkey. More darkly, they mutter about suspicious activities being undertaken by a new Bulgarian consulate-general in the northern Syrian city of Aleppo. This mission - from a country currently at odds with Turkey over an exodus of Turkish speaking inhabitants - is said to be well staffed with Turkish-speaking diplomats who the Turks claim make regular forays into Syria's Kurdish areas.

It may be convenient for the Ankara government, which has been heavily criticised in this election year for failing to control the rebellion, to blame the worsening security situation in Turkey's south-eastern provinces on outside forces. But in doing so, it has exposed frictions that are in any case being exacerbated by the water shortage in both countries.

This year has been Turkey's driest in 52 years. The flow of the Euphrates has been sharply reduced, and agriculture and the country's balance of payments are suffering.

The situation is no better in Syria. With the water level sinking behind the main dam on Lake Assad, which normally generates a sizeable proportion of Syria's electricity supply, major cities have experienced protracted power and water cuts throughout the summer. The country has had to import large amounts of

Syria on Saturday ordered an inquiry into the downing of a Turkish civilian aircraft and offered condolences to the Turkish government, which accused Syrian aircraft of shooting it down with the loss of five lives, Reuters reports.

The Syrian Foreign Ministry said Damascus hoped the incident would not affect relations between the two countries.

Turkey said earlier two Syrian MiG-21 jets shot down on Saturday morning a Turkish survey plane about 13 miles inside Turkish territory.

grain that it can ill afford, and to consume fuel oil that would otherwise have gone for export.

More to the point, the drought, by reducing the flow of the Euphrates from Turkey, has stoked Syrian unease at being beholden to its northern neighbour for water. At some points during the summer, the flow dropped well below the 500 cu m/sec which Ankara promised to supply - although Turkish officials say that they have topped up the flow to 450 cu m/sec by releasing water from their own Keban and Karakaya dams.

Despite Mr Ozal's recent pronouncement, Ankara denies that it is using water to pressure the Syrians. "It would be very attractive to use water as a weapon, but we have not resorted to that, and the Syr-

ans know it," said one senior official. All the same, the threat remains clearly implied.

In the medium to long term, problems between the two countries over water are in any case almost inevitable, given Turkey's continuing dam construction work on the Euphrates as part of its ambitious south-east Anatolia development project (GAP). These dams generate more than 40 per cent of Turkey's electricity but have already severely reduced the flow of water into Syria. And the giant Ataturk dam, third and largest of the series, with a storage capacity equivalent to four times the average yearly discharge of the Euphrates, is now nearing completion.

The problem is that no formal agreement has ever been reached between Turkey and the two downstream states, Syria and Iraq, on sharing out the waters of the Tigris and Euphrates. Tripartite talks held intermittently since the 1960s have recently tapered off.

The potential for disputes between the riparian states in the next few years is clearly enormous. "The situation is bad and getting worse," said Professor Elias Salameh of Jordan University this month at the annual Arab Press Service conference in Cyprus. "Unless [co-operative] steps are taken the water issue will develop into a major conflict in the Middle East."

## Spanish nuclear plant comes close to disaster

By Peter Bruce in Madrid

AN ageing nuclear power plant south of Barcelona came close to disaster on Thursday night after one of its two turbine generators exploded, seriously damaging the safety mechanisms that cool its reactor.

Engineers at the Vandellós I plant near Tarragona were yesterday still trying to cool the core of the plant's reactor. Two of its four cooling pumps were put out of action by the blast.

No one was injured in the blast and there was no escape of radiation. But officials were being quoted yesterday as saying the accident was the most serious in a nuclear facility

since the Chernobyl reactor exploded in 1986.

Smoke, which had begun to seep into the plant from the central control room, made it nearly impossible to begin cooling the core.

Vandellós's management has come under criticism from the civil governor in Tarragona for allegedly waiting more than half an hour before alerting the authorities. The nuclear plant, one of Spain's oldest, was built using French technology in 1972. The gas-cooled plant, which is scheduled to close in 2003, has been shut down and may not produce again.

## Swedish tax reform proposals amended

By Robert Taylor in Stockholm

SWEDEN'S ruling Social Democrats have modified their tax reform proposals for 1991 in line with the demands of the powerful blue-collar union organisation, the LO, for a more redistributive approach.

After three weeks of wide-ranging discussions among all Swedish political party leaders and both sides of industry, the Finance Minister, Mr Kjell-Olof Feldt, has agreed to reduce the highest marginal rate of central government income tax from 72 per cent to 55 per cent, rather than the 50 per cent which he had originally

intended for those earning over SKr200,000 a year.

The revenue raised from this change in the tax plan of around SKr4bn will go to ease the tax burden on Sweden's 1.7m workers who earn less than SKr125,000 a year - about 40 per cent of the labour force.

Next year, in the first stage of the reform, there will be a cut of 7 per cent in central income tax for those earning over SKr75,000 a year and 2 per cent for those earning less, in a total reduction in the income tax burden of SKr23.5m.

## IG Metall builds up strike reserves

By David Goodhart in West Berlin

IG METALL, the 2.6m-strong West German engineering union, has built up reserves unofficially put at nearly DM1bn (£340m) to fight a possible strike early next year in the metal industry.

Because of a change in the labour law, any strike action next year - over pay, reduced working time, and retention of free weekends - will be far more expensive than it was in 1984, when the union paid out DM500m to key groups of striking workers on strike for seven weeks.

In the weeks leading up to the union's annual conference,

which opened yesterday in West Berlin, IG Metall has been sternly warned against pressing for a further cut in its current 37-hour week by Economics Minister Mr Helmut Haussmann and by employers' leader Mr Klaus Murrmann.

Mr Franz Steinkühler, IG Metall leader, has accused Mr Haussmann of breaking the spirit of the country's industrial relations law, which forbids political interference in negotiations. Although the current three-year contract in the metal industry does not end until next March, talks are likely to begin this year.

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OVERSEAS NEWS

### Bush vetoes easing of abortion funding

By Peter Riddell

US President George Bush over the weekend fulfilled his pledge to veto legislation passed by Congress that would have eased restrictions on Federal funding of abortions by allowing assistance for poor women in cases of incest and rape.

In his veto message, Mr Bush, who has shifted his position to a tougher anti-abortion stand in recent years, argued that Federal funds should only be used for abortions when the life of the mother would be endangered.

Supporters of a relaxation of abortion funding almost certainly do not have the two-thirds majority in both Houses needed to override a veto since the measure only passed the House by 216 votes to 206.

The abortion issue is now at the forefront of political debate in the US since the Supreme Court ruled in early July to give greater discretion to individual states.

However, the anti-abortion forces have suffered a number of setbacks since then.

Earlier this month the House of Representatives voted for the first time in eight years to permit payment for abortions for poor women in cases of rape or incest and in another setback for those who oppose abortion, the Florida state legislature refused

to restrict abortions and to introduce changes to the current law.

Moreover, anti-abortion Republican candidates have been on the defensive in bitter fights for the governorships of New Jersey and Virginia.

The Democratic leadership in Congress, which originally feared it would lose out over the abortion issue, is now more confident that it may gain.

This is because sizeable numbers of women aged between 20 and 40 who swung to the Republicans during the elections of the 1980s do not want tighter restrictions to be imposed on abortions.

Senator George Mitchell, the Democratic Majority leader, said over the weekend that the veto would "hurt the Republicans, especially with young people."

The Republicans made opposition to abortion their issue, but now they are on the defensive and groping for a way to modify their position.

House Speaker Tom Foley has acknowledged that the House was unlikely to muster the two-thirds majority vote needed to override a veto.

Mr Bush's veto was expected after efforts to reach a compromise with members of Congress had broken down early in the week.

### US signals irritation over Israeli stance

By Peter Riddell, US Editor in Washington

THE US State Department is making public its increasing irritation with Israel's attitude to negotiations over elections by Palestinians in the occupied territories.

After a week of intensive telephone exchanges between Washington and Jerusalem, a senior US official briefed reporters that Mr James Baker, the US Secretary of State, is "not going to pursue this (his five-point plan for an Israeli/Palestinian dialogue on elections) from here to eternity." The official said that Mr Baker was giving the problem "100 per cent but there could be a limit to how long you continue." The US position has previously been of patience in face of obstacles, but last week the State Department described the comments of Mr Yitzhak Shamir, the Israeli Prime Minister, as "unhelpful and disappointing."

US officials feel that Mr Shamir is creating obstacles to the fulfilment of his own election plan and they believe the responsibility, and any blame, should be shifted to him if there is a stalemate.

The hope in Washington is that this will increase pressure for concessions by Mr Shamir, who is due to visit Washington next month. But there is no question of any reduction in the US's \$3bn a year military



James Baker: no leaf returned support for Israel.

Ms Margaret Tutwiler, the State Department spokeswoman, said that Mr Baker believed there may be "a possibility for progress, but it is certainly not a probability. If the parties in the area do not have the will to overcome their political constraints, we cannot produce progress by ourselves."

Mr Baker again talked to the Israeli and Egyptian foreign ministers at the end of last week. A senior official said that Mr Baker wanted to make sure he left "no leaf unturned. But when you get to the point where you've done 100 per cent of what you can do, you turn your attention away to other parts of the world."

### Honduran minister among air crash dead

By Tim Coone in Managua

A BOEING 727 airliner of the Honduran airline SAHSA, with 132 passengers and crew aboard, crashed into a mountain on Saturday morning as it approached Toncontin airport at the Honduran capital Tegucigalpa. Fifteen survivors have been reported including the pilot.

The aircraft was on a regular flight from Managua, the capital of Nicaragua, and was apparently flying an instrument approach to Toncontin through bad weather. Among the victims were Mr Armando Blanco, Honduras' Minister of Labour, and the daughter of the Honduran Minister of Defence as well as seven United Nations officials who had been attending a conference on population in Managua.

Mr José Azcona, the Honduran President, said it was believed the crash was caused by mechanical failure.

Regular air travellers in Central America know Toncontin airport as a "white knuckle" destination. Its short runway and location in the middle of mountains makes take-off and landing difficult even for experienced aircrews.

### Government costs in tackling earthquake estimated at \$4.4bn

By Peter Riddell

THE cost to the Californian and US Federal governments of dealing with the San Francisco Bay earthquake last Tuesday is now officially estimated at a minimum of \$4.4bn, of which more than \$3bn will come from Washington.

As the Bay area prepared for a return to full working today, there was surprise and delight throughout the US over the rescue on Saturday of 57-year-old Mr Buck Helm from his car which had been nearly flattened by the collapse of the two-tier 1980/1981 freeway in Oakland. Mr Helm's condition was yesterday critical.

Authorities originally estimated that as many as 250 people had died in the earthquake but they now say that figure was much too high.

Lieutenant Governor Leo McCarthy of California said yesterday that government assistance might amount to at least \$4.4bn, with at least three-quarters coming from Federal government and most of the rest from the state government. That excludes provisions by insurance companies and homeowners.

California Governor George Deukmejian said that some of the money would come from a \$1bn reserve for emergencies. He wanted to know full estimates of the cost of the damage and what the Federal Government would provide before deciding whether to increase taxes. He did not rule out a special tax increase, which would reverse more than a decade of tight curbs on taxes

and spending in California.

Congress is planning early action this week on legislation to increase the amount of Federal funds available. Democratic Senator Alan Cranston from California said more than \$3bn would have to be provided from the Federal Emergency Management Agency, the Small Business Administration and the highway fund. He predicted that there would be sufficient votes in Congress to secure a waiver of the Gramm-Rudman deficit reduction law for this amount.

Senator Daniel Moynihan, chairman of the Senate subcommittee on transportation, said money would come from the \$12bn surplus on the Federal highway trust fund.

### Californians braced for traffic standstill in San Francisco

HUNDREDS of thousands of Northern California residents must find new ways to get to work today, writes Louise Kehoe in San Francisco.

Transport authorities are predicting huge traffic jams as businesses attempt to resume

normal operations following last week's earthquake.

The collapse of Highway 880 in Oakland and the mid-span failure of San Francisco's Golden Gate Bridge have created serious problems for those getting to work in San Francisco from Oakland and other cities on the East Bay.

Exacerbating the problems, however, several of San Francisco's other main thoroughfares have been closed because of structural damage.

At the weekend, transport authorities continued to inspect elevated highways and overpasses throughout Northern California. By Saturday evening, it was evident that damage may be far more widespread than reported initially.

Several more streets and highways were closed, including one of three major routes to San Francisco Airport.

Public transit authorities warned of "gridlock" and urged San Francisco commuters to take advantage of additional ferry, train and bus services that have been hastily arranged to compensate for the blocked freeways.

Even if used to full capacity, however, public transport can only dent the problem. Some 250,000 vehicles normally cross the Bay Bridge each weekday morning. Only about 10,000 passengers can be carried by the expanded ferry services which now link San Francisco to Oakland. Authorities hope to alleviate the problems by encouraging car pooling and flexible work hours.

There is little doubt, however, that traffic difficulties will have a significant economic impact on businesses throughout Northern California for the next few months.

### French greet Antarctic talks as step to accord on environment

By Ian Davidson in Paris

THE 39 signatories to the Antarctic Treaty have agreed, after a week of negotiations, to hold a special round of negotiations next year to set up a "comprehensive protection system" for the continent's environment.

The agreement, hammered out at midnight on Friday, was greeted by the French Government as a breakthrough for its argument that Antarctica needs a global protection system to "turn it into a 'Natural Reserve'."

"The machine is on the rails and it is coming round", said Mr Brice Lalonde, French Environment Minister, triumphantly, after naming the US and the UK as France's main "adversaries" in last week's negotiation.

The French proposal, jointly sponsored by Australia, was fiercely opposed by a number of other Antarctic Treaty states, led by the US and Britain.

The US and the UK opposed the proposal for a Natural Reserve on grounds that it would rule out immediately any exploration or exploitation of mineral resources.

The British Government claims that recently negotiated safeguards would satisfactorily protect the Antarctic against environmentally damaging mining. It adds that technology may one day make mineral exploration in the Antarctic environmentally safe, while the French plan would rule this out for ever.

The decision to hold a Special Consultative Meeting next year, solely devoted to negotiation of a comprehensive protection system, is a significant if partial victory for the French case.

The other member-states have not agreed in advance that the end-product of next year's negotiation will be a Natural Reserve, but they have agreed that the only purpose of the negotiation is "the creation of a comprehensive protection system in Antarctica" and they have agreed that all proposals submitted on this subject will be on next year's agenda.

In return, the French Government has agreed to the holding of a separate round of negotiations next year on a liability convention in the framework of the Wellington Convention on minerals

exploration in the Antarctic.

The Wellington Convention, which would tightly restrict any exploration or exploitation of minerals in the Antarctic, was negotiated last year.

But it is still in a state of suspended animation because France and Australia have concluded that any exploration could be a threat to the Antarctic environment and have withheld their signatures so that the the convention cannot take effect.

The agreement to hold parallel negotiation on liability for environmental damage under the Wellington Convention carries the unstated overtone of a concession of principle by France and Australia to the US and the UK, since it seems to imply some continued support for the Convention.

French spokesmen insist, however, that the two negotiations will not really be parallel, will not be of equal status and may well not take place at the same time and place.

The environmental negotiation, they point out, will take the form of a Special Consultative Meeting, in formal terms the Antarctic Treaty system's highest decision-making form, whereas liability will merely be examined at a "meeting" in 1990.

France insinuates it will probably stay away from the negotiation on the liability aspects of the Wellington Convention.

Despite the ferocity of the antagonism between France and the Anglo-Saxon states at last week's negotiation, the final compromise has a paradoxical compensation for both sides.

During the uncertain period between signature and eventual ratification, the Wellington Convention on any mineral exploration in Antarctica. In rejecting the Convention, France and Australia took the risk that some countries might take advantage of an arguable legal vacuum to press ahead with mineral exploration regardless.

Last week's agreement to open a liability negotiation clearly implies that all Antarctic Treaty states intend to stand by their moratorium on any mineral exploration in Antarctica for the foreseeable future.

### Argentine rebel dismissed

THE Argentine Army has dismissed rebel leader Lieutenant Colonel Aldo Rico who led two uprisings in April 1987 and in January last year. Defence Ministry officials said last Friday. Renter reports from Buenos Aires.

Another lieutenant colonel and three captains who had supported Rico and gone into

hiding were also dismissed.

In Col Rico, a veteran of the 1982 Falklands war with Britain, led a group of young officers in the first revolt to protest at what they saw as passivity by their commanders while subordinates stood trial for human rights abuses during the "dirty war" of the 1970s.



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Announcing a new partnership of equals

The Nikko Securities Co., Ltd. has teamed up with Wells Fargo & Co. in a joint venture that operates the first large-scale global investment management firm focused on Investment Technology (IT). The alliance brings together, as equal partners, the world's two top indexers, both with the longest institutional commitment to IT in their own markets. It creates a firm with combined assets under management of \$130 billion. And the only one in the world with a substantial presence in both the U.S. and Japan. Creativity in products and technologies has always been our hallmark. The partnership ensures that our clients will continue to receive the best. Nikko Securities and Wells Fargo. We've added a new, global dimension to IT.



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"Where do I check in?"

"I've left my ticket in the taxi."

"Which gate is my flight?"

"My luggage has gone through and I need something from it."

"My car's outside on double yellow lines."

"I think that's my plane taking off."

"My canary's escaped."

"Can I get a coffee around here?"

"I can't do my zip up."

"Can I get into New York by helicopter?"

"What time do we get there?"

"Just how wide are the seats?"

"Do they have nappies on board?"

"Where do I get a newspaper?"

"Do they sell Russian vodka in duty free?"

"Where's the Ladies?"

"Where's the Gents?"

"Where have all the trolleys gone?"

"Is the Pink Poodle Club on 48th Street or 49th?"

"Do we get to see where the pilot sits?"

"What happens if it's full?"

"Where can I get an oil filter for a 1965 Hillman Imp in Chicago?"

"Do they take traveller's cheques in duty free?"

"Where's the London desk?"

"What do I do with this?"

"Can I go through to the Departure Lounge now?"

"Where is the Departure Lounge?"

"They've put the wrong name on my ticket."

"Can I get a bassinet for my baby?"

"I'm looking for some string."

"Does my camera have to be X-rayed?"

"I've just noticed my passport's out of date."

"I need an aspirin."

"Kann ich am J.F.K. Flughafen direkt zum Flug nach Chicago umsteigen?"

"Where's the Ambassador Lounge?"

"Do I need a Visa?"

"Can I take these as hand-luggage?"

"Can I change to a later flight?"

"What do I do now?"

"I have to phone my wife."

"Is there a phone anywhere?"

"Είναι ο Πήτεο Αιζντελ-Κάρπεντερ εκεί;"

"Anybody got a pen?"

"What time is it?"

"Is New York ahead or behind?"

"Can I hire a car there, from here?"

"Is it sunny in Los Angeles?"

"Will my hair dryer work in Minnesota?"

"I can't find a porter."

"My aunty's gone missing."

"Will they have any dominoes on board?"

"Are there any seats in non-smoking?"

"What's for dinner in First?"

"What film are they showing?"

"Is there a nice restaurant in Toledo?"

"How do I get into town from JFK?"

"My case is too heavy."

"How far is Philadelphia?"

"Is it on time?"

"Can I change this non-changeable ticket?"

"Can I choose my seat after I get on board?"

"I'd rather sit at the back of the plane."

"Can I order a special meal?"

"I can't find my boarding card."

"What star sign is the pilot?"

"I need to send a fax."

"Is there a wheelchair somewhere?"

"Is there a lift?"

"Do I have to be X-rayed?"

"Please, somebody."

"Which way now?"

"My seat's supposed to be reserved."

"Will they wait for me?"

"Can I change my money here?"

"What's going on?"

"How many bags am I allowed?"

"What's the code for Dayton, Ohio?"

"Is it too late to order a kosher meal?"

"What escalator?"

"Can I leave my rented car keys with someone?"

"Maybe someone will change seats with me?"

"Will we all be able to sit together?"

"Can my son sit in the cockpit?"

"Is it too late to change my flight?"

"Is it too early for the bar?"

"Will there be any film stars in First Class?"

"Who won last night's ball game?"

"I didn't hear that."

"Is it are not my wife's ticket here to pick up. ¿Qué?"

"How do I make my connection in New York?"

"Help!"



# TWA give you someone to buttonhole.

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**TWA**

For the best of America

OVERSEAS NEWS

# Road haulage single market is still a long way from reality

Discussion of a modest experiment to liberalise transport has run into determined opposition, Tim Dickson reports

FEW ideas in Brussels are ever expressed in a single word. But if you ask those trying to achieve a single market in road transport how they want to get there, a mere three-syllable answer will suffice.

"Cabotage" - the practice of allowing non-residents to offer road haulage or indeed other transport services within a member-state - is seen by architects of the 1992 programme as a big test of the European Community's real political and economic resolve.

Road haulage cabotage is intended to break down barriers that restrict national markets to domestic carriers. Enthusiasts believe it will fill at least some of those lorries forced to return home empty after cross-border journeys - and bring tangible financial benefits to road transport users in lower tariffs.

Others say it will help speed rationalisation of an industry suffering in many member-states from over-capacity and already under pressure from investments in competitive new air and rail links.

Last week's meeting of EC transport ministers in Luxembourg demonstrated that road haulage cabotage is one area where the single market dream is still a long way from reality. Discussion of a relatively modest experimental scheme ran

into determined opposition from both France and West Germany and earlier expectations of significant progress on road haulage cabotage by the end of this year are now being revised.

The arguments of ministers who fear their industries will be swamped by fleets of low-cost operators seem to outweigh those who maintain that greater efficiency and worthwhile consumer gains are the more important prize.

The word "cabotage" appears to have no known connection with the Italian explorer John Cabot - appropriate though that might have been. One must be content with the definition from the French word *caboter* (to sail near the coast). Normally applied to coastal navigation within the borders of one country, the word has come to describe non-resident operations in all forms of national transport.

The present Community-wide ban on cabotage is only one distortion of the single market in road transport. Competition is affected by different national regulations on capacity and access to the industry, and in some cases by tariff control, while a system of licences requires hauliers to apply for permits to move goods between member-states.

Because of a breakthrough



by the EC Transport Council in June last year, the Community agreed to increase the number of EC quotas by 40 per cent in 1988 and 1989, while committing itself to scrapping the whole complex system of bilateral country-to-country and EC licences by January 1, 1993.

This means there will be no restrictions on lorries carrying loads from, say, London to Frankfurt (or vice versa). But as things stand, these same British and German hauliers will be prevented from collecting and delivering goods in France, or anywhere else, to make the return journey more lucrative (a freedom known in the jargon as "consecutive" cabotage).

A study by Ernst and Whinney estimated the cost of empty moves at roughly Ecu1.2bn (£830m), of which some 20 per cent may be related to regulatory restrictions. A study by DEI (Europe) in 1986 suggested the potential market for consecutive cabotage could be about 1.5 per cent of present domestic traffic.

Successive efforts to open up these opportunities have consistently been frustrated, despite clear political and Court of Justice deadlines. Article 75 of the Treaty of Rome calls for "the conditions under which non-resident carriers may operate transport services within a member-

state" to be laid down "during the transitional period" (that ended in 1993).

The European Court, in a ruling against the Council of Ministers in 1985, urged member-states to get on with the job, while the internal market white paper of the same year set a target for road haulage cabotage of 1988 "at the latest".

The problem, as the Ernst and Whinney study observes, is that large countries such as France and Germany "with tightly regulated domestic haulage markets and high domestic rates" see themselves as particularly vulnerable. At the same time, "while operators in Northern Europe are worried about the influx of low-cost operators from southern Europe, the southern European operators are concerned about the inroads the highly efficient northern hauliers will make". Clearly, the consultants concluded, "this is a complex and highly emotive issue."

Aside from a few attempts to promote consecutive cabotage by the Benelux countries, the first real sign of political movement came in the first half of 1989 when the Spanish Presidency of the EC came forward with a limited but (most observers felt) worthwhile experimental scheme.

The idea was for an initial quota of just 5,000 cabotage licences, to be divided among the member-states and allocated to individual companies. Each licence would give the holder the freedom to operate anywhere in the Community for up to three months. The more liberal-minded countries such as Britain, the Netherlands, Belgium and Denmark were encouraged by the relatively relaxed conditions, but France and Germany expressed reservations. Bonn was anxious to apply its domestic rules. In the end, the package was not pushed to the vote.

Developments since the summer have centred on French efforts to water down the Spanish plan, notably in a proposed compromise assigning each cabotage quota to the member-state in which it would be used, and limiting its duration to one month.

France, which holds the EC Presidency till the end of the year, is concerned that its large and centrally located

domestic market is the most vulnerable to EC liberalisation. But critics argue that its alternative plan - involving in effect 132 separate quota systems, 11 for each member-country - can be seen as a step back rather than forward on the road to a single market.

That message was forcefully conveyed to Mr Michel Delebarre, the French Transport Minister, in preliminary discussions at a meeting of Community ambassadors earlier in the month and at last week's EC Transport Council in Luxembourg, where Mr Cecil Parkinson, the UK Transport Secretary, led the assault. Some EC officials and diplomats are even accusing France of betraying the office of the Presidency. The country holding that post is expected, they contend, to seek compromises in the Community interest rather than push a national point of view.

Whatever happens now - and a chastened Paris has at least promised to put part of the Spanish proposals back on the table - the problem for the liberals is to overcome conservative countries' fear of the unknown.

The Dutch and the Belgians point out, for example, that they liberalised their international road haulage markets in the early 1960s without any

negative effects. Convinced that everyone can benefit in a European road haulage market projected to grow at 5 per cent per annum, these two countries and Luxembourg are understood to be working on plans to introduce cabotage in Benelux next year as a means of showing it can work. Mr Egide Roelants, economic adviser to the Belgian Road Haulage Association, observes that intra-EC transport represents just 5 per cent of the total EC road haulage business and that cabotage thus promises to open up 95 per cent of the market. He nevertheless believes that the economic impact should not be exaggerated, that companies would need to set up marketing operations outside their home territory, and that cross-border co-operation between internationally-minded firms is likely to be the way ahead.

A spokesman for Britain's Road Haulage Association, which last week ran a conference on this and other issues, agrees. "I think that people realise that in view of the growth of the market it is not necessarily the big evil that is sometimes claimed. Hauliers will have to talk to hauliers to find solutions. It is a difficult one to solve but I just hope that an unwelcome scheme isn't imposed on us at the end of the day."

## EC and Efta aim for 'real talks' next year

By David Buchan in Brussels

OFFICIALS from the European Commission and the six members of the European Free Trade Association (Efta) have ended nearly six months' talks by identifying key questions for possible real negotiations next year.

The political decision whether or not to launch into negotiations, involving sensitive sovereignty issues as well as commercial matters, will be taken when ministers of the 12 EC states and the six Efta countries meet on December 19.

Officials have reached certain "common conclusions" in their talks, aimed at seeing whether the 18 countries could, in the words of Mr Jacques Delors, Commission president, achieve "a more structured partnership with common decision-making and administrative bodies".

But they refused to divulge the exact content of these conclusions ahead of a special Efta ministers' meeting in Geneva this Friday and debate within the full Brussels Commission.

Both sides said it had been harder to find common language on the question of future institutional links between the two organisations than on the issue of assuring free circulation of goods, services, capital and people within a "European Economic Space" combining the EC and Efta.

An Efta official spoke of the "common view that there should be common administrative, even surveillance, bodies which would be able to receive complaints, and in the final analysis, common judicial arrangements".

One option discussed, at least on the Efta side, is the Community's Luxembourg court sitting alongside six Efta judges. This presupposes prior negotiations of common rules for such a joint judicial bench to interpret.

Efta countries have ruled out adoption of the Community's common agricultural policy though the six countries might negotiate, either jointly or severally, improvements in farm trade with the EC, the official said.

The Efta countries make up the EC's largest trading partner, though Austria has applied for full EC membership. But for the moment it is at one with other Efta states - Switzerland, Sweden, Norway, Finland and Iceland - in negotiating a new deal with Brussels.

## Algerians in bid to boost gas exports

By Francis Ghiles in Paris

ALGERIA'S state oil and gas monopoly, Sonatrach, is negotiating a contract - initially worth about \$600m (£375m) - with a number of European and United States companies to re-amp the gas liquefaction facilities in Arzew, the country's major oil and gas export base.

Companies such as Bechtel, Foster Wheeler and Sofagas are known to be interested in the Algerian plans to increase the country's gas export capacity.

The hope is that as the many disputes which have marred Sonatrach's relations with its leading European and American customers since 1979 are settled, the volume of gas it is selling abroad will increase from 200 cubic metres in 1988 to over 300m cubic metres this year.

Just under two-thirds of this gas is exported in the form of Liquefied Natural Gas (LNG), while about 11.5bn cubic metres travel to Italy under the Straits of Sicily through the Transmed pipeline.

Algeria's other priority, at least where gas is concerned, is that of expanding the capacity of the Transmed line, which could help to meet the ever-growing demand for gas in Italy.

In oil exploration, Algeria is seeking to attract foreign investment, denied for a decade because of its restrictive laws regarding joint ventures.

Equally important is the need to improve the functioning of existing wells and boost production.

Many wells have been severely damaged in recent years as Sonatrach has been denied spare parts and foreign technical advice because of restrictive official policies.

Western oil companies believe that, with more freedom to operate, they could, for example, boost the annual production at the big oilfield at Hassi Messaoud within two years from 10m to 20m tonnes.

## SHIPPING REPORT Tanker rates set to peak

CHARTER rates for large oil tankers operating from the Middle East have risen to their highest level for several years, with prices being driven up by heavy demand from the Far East and Western oil companies, Terry Dodsworth reports.

Brokers say tariffs rose steadily last week, with a very large carrier being fixed at World Scale 75.

Galbraiths, the ship brokers, said, scarcely any capacity is available from the Middle East for the rest of this month, with demand strong for early November.

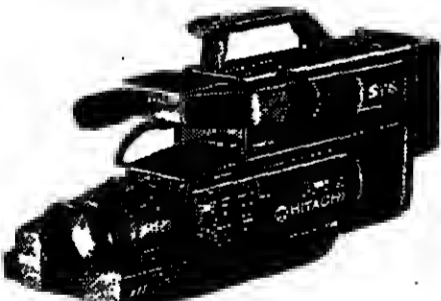
Galbraiths says rates have probably almost peaked, partly because there should be more available tonnage in the second half of November.

By that time, refinery stocks should also have been largely replenished. But the industry expects prices to remain around their present levels until December.

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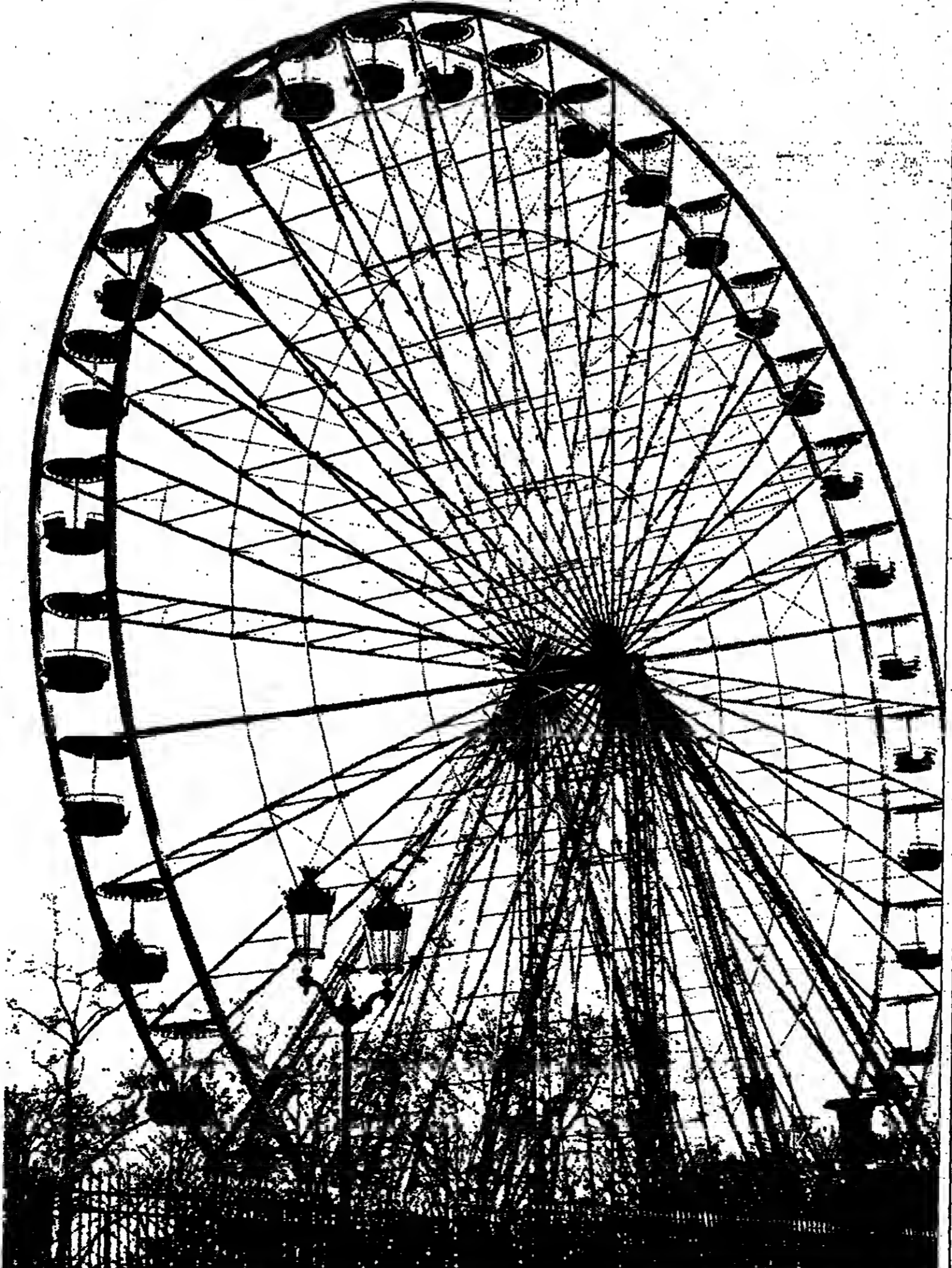


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INDUSTRIAL PRODUCTION (1985 = 100)						% change over previous year
	Sept '89	Aug '89	July '89	Sept '88	Aug '88	
US	115.0	116.1	114.8	112.0	112.0	+2.7
W. Germany	111.6	112.1	111.1	109.3	110.1	+2.1
UK	121.5	118.1	121.2	114.9	114.9	+6.1
Japan	117.4	117.0	115.1	115.0	115.0	+2.1
Italy	103.8	105.0	103.8	101.2	101.2	+2.8
Netherlands	112.8	112.0	112.9	107.8	107.8	+4.6
France						

Source: (except US) Eurostat

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Per annum, therefore, interest per \$10,000 principal amount of U.S. \$ 10,000,000, the relevant Interest Payment Date, in the amount of U.S. \$ 442.36.

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## UK NEWS

### Brussels consultation plan attacked

By John Gapper, Labour Editor

A DETAILED attack on European Commission proposals for statutory worker consultation was launched yesterday by the Government following a visit to Britain by Ms Vasso Papandreou, EC Social Affairs Commissioner.

Mr Norman Fowler, the Employment Secretary, said proposals sought by the Commission in Brussels for worker participation models within a European Company Statute would damage the "flexibility and diversity" that characterised employee involvement in Britain.

Mr Fowler, however, emphasised the Government's support for voluntary worker participation.

Ms Papandreou stressed last

week that existing practice in European Community countries could preclude the need for legislation to enforce the Social Charter.

Mr Fowler said encouraging employee involvement remained a priority. Tax reliefs to stimulate financial participation such as employee share ownership and profit-related pay had been included in nine out of the last 10 budgets.

He was launching a booklet detailing employee participation at 26 British companies, which includes an extended rebuttal of the need for statutory worker participation models such as the West German system of co-determination.

The booklet argues that compulsion along the lines of the

European Company Statute or the Verduling directive on worker consultation is not conducive to the development of wholehearted employee participation.

It lists a series of disadvantages to statutory enforcement of employee involvement, including:

- Legislation would divert companies' energies from "irrelevant new statutory requirements" instead of developing practices which suit them best.
- Compulsory co-determination could have a damaging effect on management decision-making. Workers' representatives would be able to block vital changes and destroy jobs.

• Important decisions could be held up and sometimes overturned, leading managers and board members to choose not the best course, but "the line of least resistance."

• Consultation machinery could push direct communication between managers and workers into second place, and middle managers and supervisors might be less well-informed.

Among the practices cited in the booklet - called People and Companies - are team briefing at the French car manufacturer Peugeot Talbot, an employee share ownership plan at Roadchef and job-sharing and share ownership at the UK food retailer J Sainsbury.

### In Brief Ambulance men attack plan to use police vans

AMBULANCE management is being accused of "fraying lives at risk" as London crews prepare to begin a work-to-rule from tomorrow.

The health unions are protesting at plans to turn police vans into emergency ambulances as they step up industrial action to a pay dispute.

**Travel staff prize**  
THOMAS Cook, the travel agency, is to award a gift to each member of staff who makes a suggestion for improving business efficiency even if the idea is not practical, under a relaunched staff suggestion scheme.

The company has this month revised its scheme, founded in the 1940s, in order to raise the participation rate from the previous level of about 600 suggestions a year among its 6,800 staff to 1,300 a year.

**Company pay**  
TWO thirds of UK companies have raised basic pay and more than a third have introduced performance-related pay schemes in the past two years in order to tackle growing difficulties in recruiting and retaining staff, according to a survey.

**Royal programme**  
THE Prince of Wales is to write and present a TV documentary on the environment. It will be screened in 1990 as part of a "One World" project in which European broadcasting stations collaborate on programmes about global problems.

**Fire bombs defused**  
THREE fire bombs were defused by London police yesterday after a tip-off from a man claiming to represent an extreme Welsh nationalist group.

**Air control offer**  
AIR traffic controllers yesterday offered to work up to 15 extra days each over the next year to relieve difficulties with the service because of staff shortages.

### Cambridge lengthens courses

By David Thomas, Education Correspondent

CAMBRIDGE University is planning to lengthen undergraduate engineering courses to four years because it is concerned by the refusal of continental European employers to recognise the traditional three-year British engineering degree.

Four-year engineering degrees will also allow Cambridge to increase the amount of time devoted to areas such as computing and management, which is likely to be welcomed by employers of graduate engineers.

Professor John Carroll, who has drawn up the proposal, said that a three-year engineering qualification was not recognised by some employers in continental Europe where five- and six-year engineering degrees are more common.

Employers, however, may be

concerned about the impact of Cambridge's proposal on their student sponsorship costs and also on the overall numbers of graduate engineers, who are already in very short supply.

Cambridge is planning to cut its annual intake of engineering students from 350 to 270, because it does not foresee extra resources to fund the transition to the four-year degree.

There has been a steady trickle of universities converting to four-year engineering degrees.

The Engineering Council has argued that a four-year course would be appropriate for a minority of engineering students as the university is concerned about the declining standards of mathematics in schools.

The proposed move by Cam-

bridge, which has one of the largest and most prestigious engineering departments in the country, is likely to reopen interest in the issue.

Cambridge's engineering department plans to present a proposal to the university authorities for a four-year course starting in 1992.

Prof Carroll also said that while the quality of students was still very high, many of them particularly from state schools no longer study maths to a sufficient level to be able to complete satisfactorily an engineering degree in three years.

Under the plan, some Cambridge students could still leave after studying engineering for three years, but the great majority would stay on for four, possibly leading to the awarding of a M.Eng. degree.

### Mixed vote expected in engineering strike ballot

By Michael Smith, Labour Staff

MEMBERS OF the largest engineering union at the Cheltenham plant of Smiths Industries have voted in favour of striking for a reduced working week, Mr Pat Rawlings, the chairman of the factory's shop stewards' committee yesterday.

Mr Rawlings, however, said he thought in spite of the "yes" vote among AEU members, majorities in some of the other unions at the site were against striking.

The vote results at Smiths and six other engineering plants throughout Britain will be announced by the Commission of Shop Stewards' and Engineering Unions (CSEU) this afternoon.

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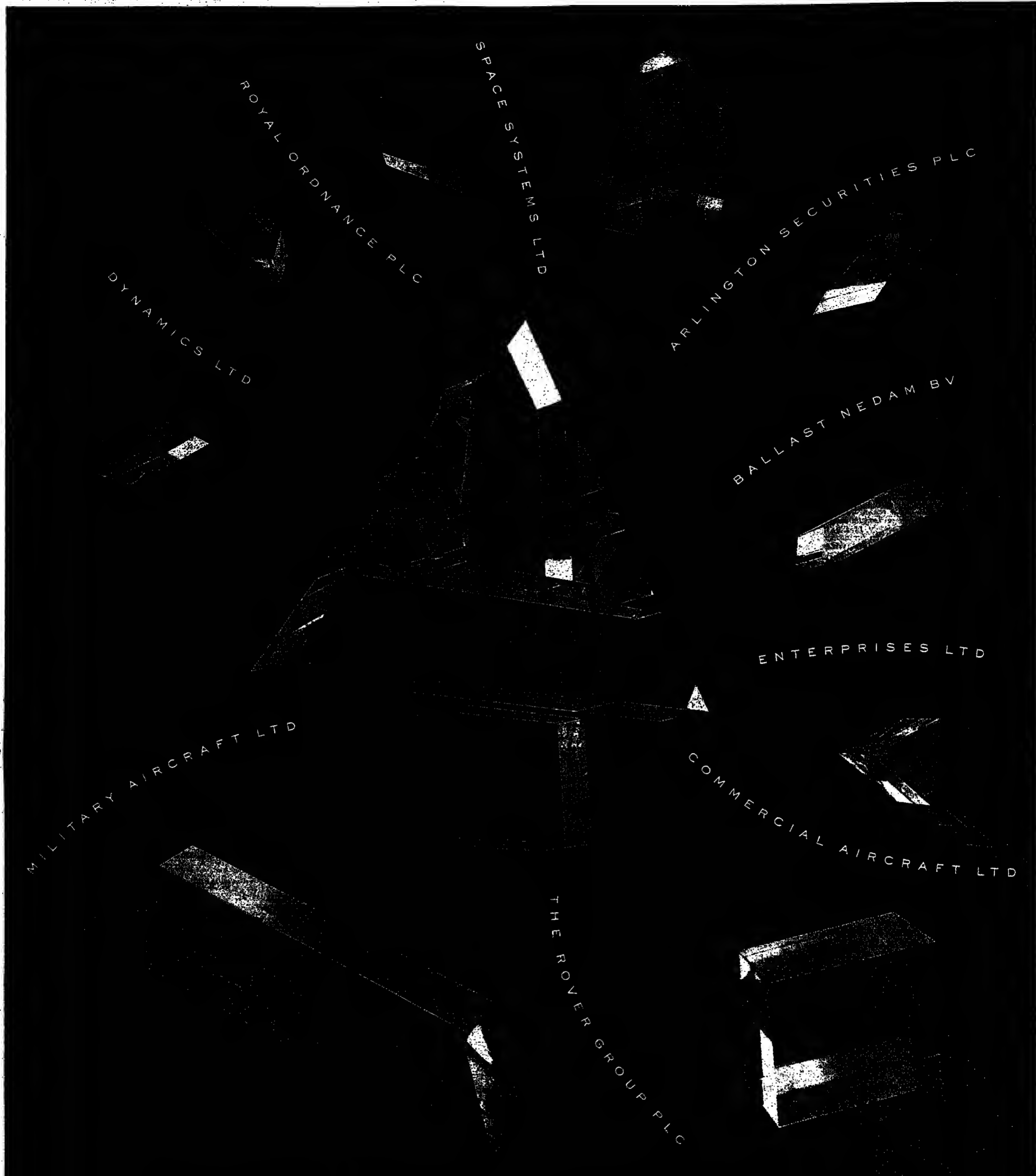
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### FINANCIAL TIMES CONFERENCES

**THE FT CITY SEMINAR**  
London, 31 October, 1 & 2 November, 1989

The FT City Seminar is an exceptional training programme with speakers of great authority who describe and discuss the major markets and players involved in the complex life of the City of London. An interesting feature of the next Seminar is an examination of the changing regulatory approach of the SIB a year after David Walker became its Chairman. The Single European Market and the directives from Brussels that are required to put it in place add major new regulatory challenges and these, together with discussions of solutions, will feature also.

Among the new speakers this Autumn are Antony Beevor of the Takeover Panel, John Footman of the Bank of England, Roger Brooker of Candover, Bryan Kelleet of Lloyds, Paul Smees of the Securities Association, Nicholas Jones of Lazards, Tadashi Natori of IBJ Bank and Michael Fuller of Midland Bank. There will be particular interest in the mergers and acquisitions part of the programme and in the strategy of a major Japanese player in London with a Tokyo institution represented in the series for the first time.

Michael Fowle, Keith Woodley, David Suratgar, Stanley Clinton Davis, Christopher Johnson, Herschel Post, Francesca Edwards, Peter Tudball, Peter Wildblood, David Malcolm, Richard Kistley return to the platform and the Seminar Chairman, Marc Lee, Conference Adviser to the Financial Times, will as always, make sure that the participants have constant opportunities to ask questions on the issues that concern them.

**WORLD SHIPPING IN THE 90s**  
Amsterdam, 14 & 15 November, 1989

The FT proposes to stage a major conference to coincide with the Europort 89 Exhibition. After the difficulties of the past few years, the hopes and signs are for a recovery in the world shipping industry. The aim of this conference is to examine current trends and look at the industry's prospects and opportunities for the long term. Speakers taking part include: Henk Rootleff, Royal Nedlloyd Group; Hans Jakob Kruse, Hapag-Lloyd; Erik Toenseth, Kvaerner Industries; Jeremy Smith, Liberian Shipowners Council; Ernest Fong, Marine Navigation Co and Hiroshi Takahashi, NYK Line.

**WORLD ELECTRICITY**  
London, 16 & 17 November, 1989

The FT World Electricity conference is an important annual forum for discussion and assessment of the economic, financial and political issues facing the power industry. This year the agenda emphasises the role of the utilities in a public policy climate that is increasingly hostile to monopolies and favourable to competition. The conference will feature a survey of the prospects for some of the most important electricity systems and will include debate about privatisation in Britain. Among those taking part are: Robert Malpas, Chairman Designate of PowerGen; Peter Bradford, Chairman, New York State Public Services Commission; Hémy Carie, Directeur Général Adjoint, Electricité de France; Togo Miwa, General Manager of the Tokyo Electric Power Company and Dr Dirk Kalmeyer, Director, Rheinisch-Westfälisches Elektrizitätswerk AG.

All enquiries should be addressed to:  
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### UK NEWS

# Policy of high interest rates hurts a Tory heartland

## Christian Tyler finds that the rising cost of borrowing has hit many residents of Lewes in Sussex

BETWEEN the photographs of houses for sale, plastered all over the estate agents' windows, pallid young clerks could be seen lounging at empty desks. It was the only sign in the capital of Tory Sussex that anything was wrong with the British economy.

The ancient market town of Lewes is just over an hour by train from the metropolis but it is light years away from the feverish world of the Stock Exchange and money markets. Its inhabitants remain unmoved by exotic controversies about interest rate management or the timing of Britain's ERM membership.

The Chancellor's speech at the Mansion House before the weekend left them less than agog. They were more interested in the site of the new tip, the route of the by-pass or the news from California.

Nevertheless, many Lewesians are being hurt by high lending rates — a few quite severely. They may not like it, but they will put up with it. Besides, for every young couple in an £30,000 terraced house struggling on the interest-rate escalator, there is a retired couple planning, on their swelling deposit account, a holiday to the Far East.

So, unless things get very much worse the Conservative Party can go on pulling the lever that has returned a Tory MP to Westminster for as long as anyone can remember. As Mr Guy Reakes, leather industry consultant and vice-chairman of the constituency association, confessed: "The trouble with the Conservatives in Lewes is they're not interested in politics."

Lewes High Street is the sort of place to go if you want designer tea-cosies, hand-thrown pots, ruched curtains, wicker furniture and first editions. However, the town is socially more mixed than its castellated charm and Home Counties gentility suggest.

The local council is not Conservative-controlled but has a Liberal Democrat majority. The town was often Labour before it was merged into the district. Today there is a growing fringe of bearded academics from Sussex University and Brighton Polytechnic. The really rich mainly live in the villages round about. As a result the effect of the interest



Estate agent Anne Wycherley; so many properties there is not room for them all in the window

rate squeeze on consumer spending is very mixed.

A gallery owner said that antiques were selling slowly but modern paintings, seen as a good investment, continued to sell well. The head of a jewellery company beside the River Ouse said he had not detected any change. The independent travel agent told the same story but wondered if things would change next year.

One of the antiquarian book-sellers, Mr Andrew Cumming, said he was more worried by exchange rates hurting his foreign customers than by UK interest rates. Besides, he had cleared his overdraft years ago as a matter of deliberate policy.

On the other hand, Ms Belinda Burton, who runs a mid-price fashion boutique, said she was feeling the pinch for the first time ever. Her sales had been markedly down over the past few weeks — although unseasonably warm weather might be partly to blame.

Earlier this year she took out a large business overdraft and her payments were now "absolutely ridiculous." She said: "I am worried about spending money on books and other things I don't actually need. I imagine November could be better, Christmas will be the last Ding and January, February and March could be really dire. We shall survive,

but I think a lot of people will suffer."

Mr Peter Bailey, one of the town's biggest entrepreneurs, is forecasting worse than that: a full-blown recession. He said the base rate increase this month to 15 per cent had been the last straw and had had an instant effect on his customers' spending. He added: "I think the Conservative Government are going to do themselves a lot of damage."

Mr Bailey is chairman of the group that owns ClothKits, a manufacturer of trendy clothes for women and children, popular with middle-class mothers and known well outside Lewes. His customers are the sort of people who have big Peugeot

and Volvo cars, big mortgages and send their children to private schools.

"These are the people who have been hit the hardest," he said, "but I think the economy generally is going to suffer quite heavily and there will be an awful lot of people caught with their trousers all the way down."

It is the invisible essentials that take the strain first, according to Mr Ted York, who owns the High Street brokers Berkeley Alexander. He said that more insurance premium cheques than usual had been bouncing in recent weeks and business had gone "suddenly very quiet." He thought people were delaying or failing to renew house contents insurance; some would be tempted to trade their comprehensive car insurance down to third-party cover. Life insurance might be the next thing to go. He has stopped advertising home income plans to the elderly. "When we spell out what it means, people just didn't want to do it: the roll-up of interest rates is frightening." At times like the present, he said, people would do better with old-fashioned instruments such as annuities.

Mr York normally arranges 10 mortgages a month; at present he is doing three. That is no surprise; the house market has been dead for months. However, it is odd that the local building society reports no rise in payment arrears. The Sussex County Building Society said that problem arrears — that is accounts three months or more overdue — had increased by only a fraction of 1 per cent in the year to June.

According to Mr Walter Evelyn, a senior manager of the society, the mortgage lender is not the first but the last person to know of his customer's financial problems. It seems that people will face anything rather than default on their home loan. It remains to be seen what happens when the society's 13.65 per cent mortgage rate goes up at the end of this month.

Local estate agents have slashed tens of thousands of pounds off the prices of houses but the market is at a crawl. The only houses changing hands seem to be those belonging to people whose jobs have

forced them to move, who have taken on bridging loans, or who have died.

Miss Anne Wycherley, sitting in the beamed and paneled office of her family's old-established estate agency, cheerfully pulled out a list of properties for sale. She said: "There are six sides of paper here. A year ago it was only one. We have got so many properties I can't get them all in the window — and we've got the biggest window in Lewes."

The office of the Halifax Building Society has seen its turnover of property transactions drop 50 per cent and sales by 10-20 per cent. The manager said it would be the middle of 1991 before prices started to rise again. Another of the dozen estate agencies along the High Street, the Abbey National's "Cornerstone" closed suddenly in the summer. Everyone is waiting to see who falls next.

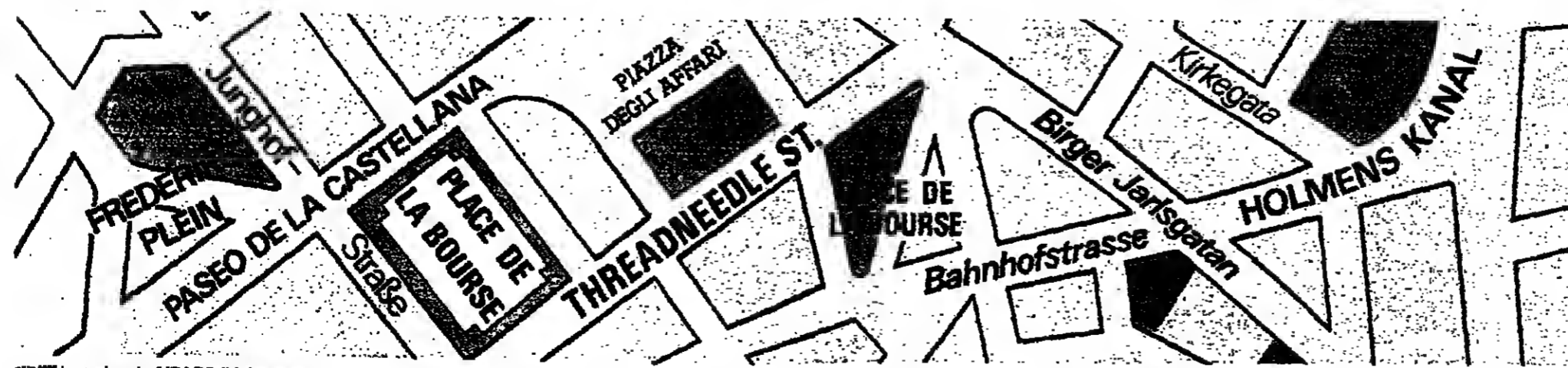
In a loft of the former Star brewery just off the High Street, Mr Michael Cooper is restoring pictures on an old easel. He is a partner in a venture that converted the brewery into 20 arts and crafts "units" and turned its £170,000 overdraft into a business development loan a few months ago. "We got it at a fixed rate of 15.5 per cent because I suspected that things would go up," Mr Cooper said. "I thought it best to get into a bolt-hole and pull the hatches down."

There are borrowers — more numerous than many think — who are quite oblivious to interest rates. Mr Peter Hall, a winemaker, grows six acres of Seyval Blanc grapes at Breky Bottom farm, a magical place hidden in a fold of the downs. His must be the most precarious business in England.

However, last week, to the bellow of symphonic music in the old stone barn, he was bringing in a bumper harvest of the crop that has kept him barely afloat for six years. He said this year he would beat his 1983 record of 20,000 bottles.

Mr Hall loves wine and wine-making. He is not very excited by money. As he said: "I'm not interested in getting the last penny. I'm not even very interested in the first. I don't know what the current base rate is. What I do know is there's bugger all I can do about it."

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Mark Hopkins



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MANAGEMENT

Industrial relations

# A model to be imitated elsewhere in Europe

Jimmy Burns examines the experience of management/labour consensus at Man Roland, the West German printing machinery maker

**I**t is lunchtime at the main Offenbach plant of Man Roland. A group of local trade unionists — Messrs Frank, Winkler, Enders, Reiss, and Wich — is entertaining a visiting foreign delegation of British university professors in the executive dining rooms.

There are some managers in the room also. On this occasion, though, the role of extolling the virtues of working for one of the world's biggest producers of printing machinery to this delegation of somewhat battle-weary UK industrial relations experts has been left to the trade unionists.

That the university professors, while tucking into generous portions of campari, wine and venison, are taking copious notes is hardly surprising. *Mitbestimmung* — worker participation in management — has been well-known to West Germans for several decades.

But only recently has it begun to generate a much wider interest given the bubbling debate within the European Community over the issue of the social dimension.

At Man Roland worker participation is built into the corporate structure, but it falls well short of the "creeping marxism" that British Prime Minister Margaret Thatcher, years lies behind the European Commission's proposed Social Charter.

The company's annual accounts begin not with the report of the chairman but of the *Aufsichtsrat*, the supervisory board, boldly claiming that over the past year the company has "continuously gained information on the situation of the company and on important questions of management."

It is the kind of phrase that might well send a chill down the spine of many a British manager. And yet as Claus Müller, personnel manager at Man Roland, explains, co-participation falls short of co-determination, even in Germany.

"The supervisory board has no major influence on changing or pre-

venting major investment decisions," says Müller, whose company's list of customers ranges from the Soviet Communist Party (an order for printing presses was placed last year by the Party's youth newspaper) to media magnate Rupert Murdoch.

Major policy decisions are still taken by an executive board of directors, on which sit bankers and major shareholders but no workers. Even on the 13-person supervisory board, workers are outnumbered by management representatives.

Nevertheless the workers are not without some clout. Industrial relations at Man Roland are conducted through a complex system of informal and formal relations between senior management and employee representatives.

Two members of the supervisory board, Heinz Frank and Klaus Schmidt, are also the deputy chairman and chairman respectively of the works council. The council prides itself in having a considerable influence on a wide range of issues affecting the conditions of the staff.

Under German law, pay increases are negotiated separately from discussions over working practices and conditions on a regional and sector by sector basis between the employees association and the unions.

However, management has to discuss with the works council through its various committees issues like health and safety, over-

time, the introduction of new machinery, and redundancies.

"At a regional and national level unions are very strong in wage negotiations and are prepared to take industrial action to get results. But here in the plant both sides are obliged by law to listen and recognise each other," says Heinz Frank, a former turner who has served on the works council for 18 years.

Arguably, the legal context in which industrial relations in Germany is conducted is in striking contrast to those in Britain where a decade of anti-union legislation has in many instances provoked confrontation rather than dialogue.

At Man Roland, attempts by management to introduce a new data system for processing biographical and wage details of individual staff was delayed by two years because of works council objections that it might infringe on people's liberties.

The works council also forced the management to back away from plans to operate computer-controlled taping machines with flexible shifts involving semi-skilled as well as skilled staff.

Even though demographic change in Germany, as elsewhere in Europe, has provoked an acute shortage of skilled labour, the works council insisted on this occasion that the proposed changes in working practices could endanger health and safety.

It is frictions such as these which

lead Müller to concede that there are managers in Germany who believe that industrial relations are too restrictive and that "change is necessary."

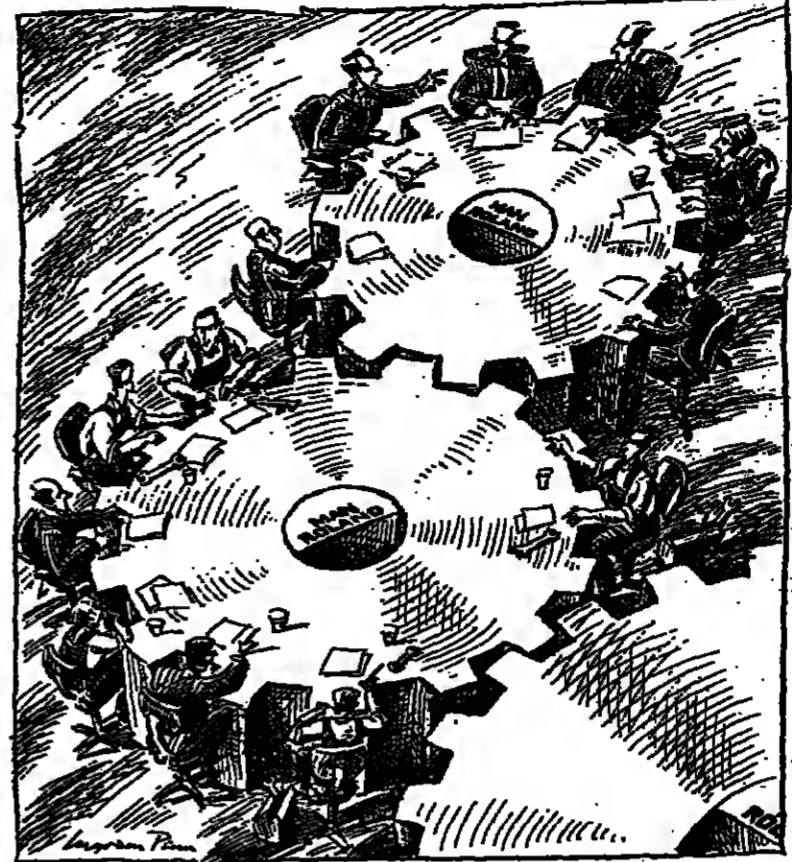
He insists, however, that they are in a minority and he is not among them. "I agree that the works council can take up a lot of time and energy. But in the end I think it makes retreating easier and dismantles prejudicial resistance to new technology."

In some British companies change is often discussed with unions in periodic and acrimonious bursts during national pay negotiations. At Man Roland the human and commercial implications of new technology are the subject of regular discussions between a reduced group of works council representatives and senior managers.

The friction in industrial relations has been the exception rather than the rule. Although workers at Man-Roland joined the national strike in support of the 35-hour week in 1984, the plant itself has not had a localised dispute since 1968.

In the intervening period, the company, which employs over 7,000 people, has moved in leaps and bounds towards flexible higher quality production. It now claims to have an almost unparalleled range of products from small sheet-fed machines for commercial printers to three-storey Colsonian presses.

Faced with examples of what workers councillors refer to as



major concessions by management, Müller points to change which has been possible by what he describes as a "large measure of give and take."

On the thorny issue of working time and the impact of new technology management and the works council have secured what both describe as their own "model agreement" aimed at maintaining the momentum of productivity.

New machines introduced at the plant now have a high degree of interchangeability between skilled and unskilled workers. The work force on the whole has a 37-hour week written into contracts, although in reality the majority of

employees work 38 hours in return for five extra days' holiday per annum. There is in addition an available "task-force" of highly-skilled workers prepared to work up to 40 hours or less than 37 depending on management needs.

After lunch at the Offenbach plant, the works council representatives act and sound like line managers as they take the university professors on a tour of the plant. Questions about pay and hours are skillfully deflected and met by bullish statements about the high standard of the work carried out by the computer-controlled machines and the enthusiastic involvement of the shop-floor in training.

Significantly, the tension that exists at Man Roland appears to have less to do with management-employee relations than with employee-union relations.

In the West German metallurgical sector, nearly 90 per cent of members of workers councils are members of the metal workers union IG Metall. The union conducts regular trade union courses for works councillors in communication and negotiating skills and appoints "liaison officers" to ensure that links remain strong between the council, the shop floor and central IG Metall.

And yet at Man-Roland, recent elections for the works council were thrown into considerable confusion when the shop floor refused to accept the official list; put forward by IG Metall on the basis that it was not sufficiently representative.

Last week, Messrs Frank, Winkler, Enders, Reiss, and Wich — all militant members of IG Metall — insisted that they were the only members of the 23-man works council sufficiently "representative" of the rank and file to speak with the outside world.

Heinz Frank admits the union approaches are now engaged in a "hectic battle" to ensure that they are re-elected. "It's going to take a lot of tough organising to keep union control."

"The first real test is likely to come in the next few months when the relative stability of Man Roland's industrial relations could be threatened by a wider union battle over a further reduction to the working week."

Nevertheless management at the company remains reasonably confident that labour consensus will survive. Far from "creeping Marxism," Müller agrees with Frank that West German companies have a model of industrial relations that deserves to be imitated by the rest of Europe.

Says Müller: "I think perhaps the problem you have in England is that not enough thought has been given to the social model that is needed for capitalism to work."

**S**o what is the market like in the UK for industrial robots? "It's on the floor," says Phil Binding, marketing manager for Unimation, Britain's sole mainstream robot producer.

The awful roller-coaster ride the UK's lonely player in robotics has endured over the past few years has been partly shaped by the rather feeble British market for automation equipment.

But it has had more to do with Unimation's own parenthood, absentee management and the pressures of competition which by the middle of last year had reduced the company to a bit-part component supplier with a staff of just 35.

## UK 'reluctance' to think long term with robotics

It was with some relief for Unimation's British managers, therefore, when its parent, Westinghouse of the US, sold it last December to Stäubli, the Swiss textile machinery and robot maker.

Now, with an initial planned capital investment of £500,000 at its site in Telford, Shropshire, a bit of prodding of managers and some reorganisation, Unimation (renamed Stäubli-robotics) is assembling complete robots again and its workforce is above 100.

"There is a much better feeling here now," says David Clayton, the 39-year-old general manager at Telford who has spent virtually his whole working life at Unimation.

Britain is a tiny supplier of robots. It does not have producers of the size of Asea Brown Boveri, Kuka of West Germany, Fanuc and Kawasaki of Japan. Unimation, a robot assembler not a manufacturer, is really the only mainstream UK brand name.

Clayton rolls his eyes and moans quietly when the chequered history of Unimation is broached.

The company was set up in

the 1960s in the US by an engineering entrepreneur and produced the world's first robot — showing it on the Johnny Carson TV show in 1967.

The US company, Condec, bought Unimation and a British selling and design arm was set up in the early 1970s with co-operation from Guest Keen and Nettlefold.

GKN eventually backed out and, in 1981, the British Technology Group and the Department of Trade assisted in the setting up of an assembly operation to make in Telford the US-designed Puma series of

robots. Condec got into difficulties and in 1982 Unimation was bought by Westinghouse.

Westinghouse subsequently discovered that the \$108m it paid for Unimation was a high price. Nevertheless, it pressed ahead with production and development.

But Westinghouse's plans to develop a new electronic robot were scuppered when Japan's Kawasaki beat it to the draw with its own model. In 1987 Westinghouse sold the Connecticut plant, sold off its hydraulic robot business to Frab of the US and cut UK staff to 85.

Clayton remembers the Westinghouse days as very bureaucratic, a situation he feels "particularly harmful for a small company like ours."

Stäubli, which had been a distributor of Unimation robots, had started making its own robots in 1985. At the end of 1988 it had completed the purchase of the whole of Unimation for an undisclosed sum.

Since then, Telford has restarted assembly of complete robots. Clayton says the objective this year is to supply 940 robots from Telford as well as controllers for Stäubli's Swiss-

made robots. Telford has supplied 312 robots so far this year and is heading for sales of about £10m. The long-term aim is to be supplying a thousand robots a year by 1992.

Clayton says British managers have had plenty of ideas on how to improve Unimation and Stäubli is giving them the chance to put some of those into practice. That includes redesigning the shopfloor. The new Swiss owners have also been encouraging a "tougher attitude" with component suppliers on quality.

About 90 per cent of Stäubli-

Unimation robots are exported from Telford. Managers at Telford say this is unlikely to undergo a significant shift because of what they see as chronic investment policies by large slices of British industry.

"In a typical British company there is a lot of reluctance to look at the issue of robotics," says Clayton. "How many jobs can you save is still, sadly, the main question you meet. The issue is still who can they get rid of next rather than looking at the long term benefits of quality, production repeatability and lowering costs for short run production."

Nick Garnett

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## AEG



ARTS

ARCHITECTURE

A brave search for perfection
Colin Amery reports on this year's Aga Khan Award

MONUMENTS versus the past; the present, spiritual versus materialism; almost always, the winners arrived to announce this year's winners. Somehow the spectacle reinforces the dilemma of the whole award: the wandering leader without a land, culturally based in America, England, Switzerland and France yet spiritually at home in the Islamic world; generous in his hospitality hot conscious, as the Award is, of the anomaly of the need for conspicuous expenditure to focus the eyes of rich nations on the needs of the poor.



The rehabilitation of Asilah, Morocco, which dates back to the Phoenicians

loans has become a social and development organization. It depends on the creation of groups of borrowers, all of whom promise not to default. Further loans are conditional upon the disciplined repayment by the whole group. Most of the borrowers are women and they clearly exert a kind of group moral pressure to ensure the small loans are repaid.

modernism on the Islamic world. It was a problem that has always worried serious architects. Lutyens, when he was building the great Indian capital of New Delhi, did not want just to copy Indian styles or to stick them on to Western classical architecture. His work at New Delhi showed that a new synthesis is possible in the search for architectural universality. He felt that the rounded arch had something to offer the East, and wrote at the time that "God did not make the Eastern rainbow pointed to show His wide sympathies."

Stop the World

LYRIC THEATRE

Stop the World - I Want to Get Off, by Anthony Newley and Leslie Bricusse, returned to the West End last week only to prompt thoughts as "Stop the show - I want to get out." In an evening of unadorned whimsy, the ageless Newley recreates his allegorical hero Littlechap, stags as well as curiously as ever he craves and yet still manages to leave you (or to be exact, me) limp with dissatisfaction.

RPO

ROYAL FESTIVAL HALL

The cellist Metislay Rostropovich is in town to play three concerts, for which the Strauss evening on Friday will have provided a marvellous centrepiece. Although there is general agreement that Don Quixote is one of the most consistently inspired among Strauss's tone poems, the piece can be difficult to bring off in a concert, where the lone cello hero is pitted against an orchestra of awesome size and complexity.

Tantz-Schul

OPERA DE PARIS

On Friday night the new season began for the Paris Opéra Ballet. With the Héroïde house how given over to opera, the French have with characteristic pride and artistic good sense, made Garnier's great palace a home for dance. It would not, of course, be the Paris Opéra if there were not a drama brewing and Rudolf Nureyev, director of the ballet, is currently in dispute with the administration and busy with a North American tour of The King and I.

October 20-26

- London: The Philharmonia conducted by Esa-Pekka Salonen, with Sarah Leonard (soprano), Strassburg (cello) and Festival Hall (Mon) (928 8800).
Paris: Orchestre de la Suisse Romande conducted by Claudio Abbado, with Salvatore Accardo (violin), Weber, Mendelssohn, Brahms, Royal Festival Hall (Thu) (895 8800).

OBITUARY

Sir Anthony Quayle

Sir Anthony Quayle, who died on Friday aged 76, was one of the outstanding personalities in the British theatre this century. His contribution was not always fully appreciated. In many ways he was the architect of the Royal Shakespeare Company which was founded by Sir Peter Hall in 1960.

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ARTS GUIDE
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Strength from Impressionists
Six George II gilt decorated ecarlat japanned cane side chairs of around 1755 went for \$32,000. They had been sold by David and Lady Pamela Hicks from Britwell House in Oxfordshire ten years ago. Two large Chinese jade vases and covers of the 18th century, 21in high, went to a New York dealer for \$23,000 while a Meissen and German ormolu centrepiece, mounted with French porcelain blossoms, mid-18th century, did well at \$80,750.



The German state railway is one of the few surviving national institutions. It provides the best way to see rivers and forests, to peer into fairgrounds, car scrapyards and the back windows of apartment houses.

David Marsh, the FT's Bonn Correspondent, reports on three aspects of the German way of life



# Wanderlust and model trains

West Germany's Bundesbahn is richer and smarter-looking than its East German sister, and provides it with discreet subsidies. East and West Germany also have rival model railway companies. Märklin, the market leader, founded in 1859, has its headquarters in the Swabian town of Göppingen in Baden-Württemberg.

One of the best lunches in Europe is Sauerbraten served on the spectacular stretch of the Rhine between Koblenz and Mainz. There are 11,000 Schaffner, all state functionaries or Beamte, a species bequeathed by Prussia.

Travel by car. Now, he says, driving along the Autobahn makes him "kaputt". His motorways show Wanderlust in action. They are clogged with gleaming cascades of metal, flashing their headlights at sub-90 mph dawdlers.

Numbers of wandering carpenters and journeymen, princes and tailors. There is a deep-held view that individual destiny can only be found far from familiar surroundings. Heimat "homesickness" - can be rendered into English (although Heim is not easy to define).

## LOMBARD

# Sterling viewed from Frankfurt

By Samuel Brittan

Exchange Rate Mechanism and is leaving the British Cabinet to sort out its own disagreements. I mentioned that France was likely to end exchange control well before the July 1990 deadline and thus fulfill one of the Lawson-Thatcher conditions.

Thus the crucial conditions are a reduction of the British inflation rate - which, correctly measured, is only 1 to 1 1/2 per cent above the Community average - and the choice of a time when the exchange rate is sustainable.

## LETTERS

### Difficult to improve on oil exploration licensing

From Mr Robert McKee. Sir, Your editorial "Protectionism and UK oil" (October 17) advocated the auctioning of all exploration licences.

Under the present system of discretionary awards, government can ensure that maximum effort is expended on each new licence by selecting the company or group of companies prepared to guarantee the fullest and perhaps the most creative work programme.

### Social democracy triumphant

From Mr Ian Holliday. Sir, If Francis Fukuyama is wrong to proclaim the End of History, it is not for the reasons given by Ian Davidson in his article "News of the End of History fails to reach Europe".

Whether this will prove to be the End of History is open to question. However, what is clear is that we have reached a point at which a single cluster of political ideas is predominant and secure from traditional challenges.

### Investors' company accounts

From Mr Eric Heston. Sir, "Keeping Sid in the picture" (Lombard, October 6) highlights the undebatability of the Department of Trade and Industry's conservative decision on the issue that small shareholders need not receive a complete report and accounts.

These surcharges are part of a campaign by Royal Mail Letters to encourage clients to post mail in sizes more easily handled by the Post Office.

### Banks' deal with South Africa throws lifeline to apartheid

From Mr John Denham. Sir, The many organisations - and the many individuals - who attempted to prevail on the banks not to reschedule their South African loans received a fairly standard response.

The terms of the last rescheduling deal in 1987 has allowed a near doubling of South Africa's defence expenditure. The latest deal gives South Africa another breathing space and reduces the growing economic pressure for change.

### No polarisation between the visible and the invisible exports

From Mr Richard Mason. Sir, Peter Brighon (Letters, October 17) is less than fair to Simon Holberton ("Services have been success story of the 1980s", October 12).

Any polarisation in public perceptions of relationships between services and goods, between "surplus" invisibles and "deficit" visibles, would be unhelpful. It would also divert attention from the essential task of correcting the imbalance in our balance of trade.

Let I invite criticism as an interested party, I will add that the British Invisibles Exports Council (BIEC) also believes that it would be folly to rely solely on invisibles.

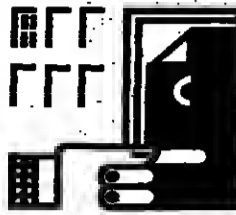
Any polarisation in public perceptions of relationships between services and goods, between "surplus" invisibles and "deficit" visibles, would be unhelpful. It would also divert attention from the essential task of correcting the imbalance in our balance of trade.

Advertisement for TAP AIR PORTUGAL featuring a large image of a man in a suit and the text: "BY TAP AIR PORTUGAL. If you have a passion for travel, refinement to you is just a way of life."



SECTION III

# FINANCIAL TIMES SURVEY



As more companies apply information technology, there is a growing awareness among senior

managers of the need to develop a clearer overall strategy for the more effective use of computerised equipment, as Della Bradshaw reports here.

## Big impetus for change

INFORMATION technology will undoubtedly provide the biggest single impetus for change in the office environment between now and the year 2000. It will change the kind of work we do and how we do it. Even where we work will come under review.

Most companies now realise that the way information is manipulated is likely to be one of the most effective tools in making their businesses more competitive, and to do that they need information technology equipment. Badly installed, electronic gadgets can prove costly, ineffective and even dangerous — and result in unhappy, discouraged staff.

The sea-change in company attitudes has largely been brought about by the personal computer (PC). Until the early 1980s, most computers were kept behind locked doors in icy rooms with people who spoke a language incomprehensible to the average office worker. Out of the rooms emanated, on a weekly or monthly basis, new slugs of document confirmation forms. When anything went wrong, it was the computer's fault. Then, the most advanced office technology was the electric typewriter and the rented

photocopying machine. Today, workstations and PCs are widespread, and senior managers have long ago stopped boasting that they have "never touched a keyboard." By the end of the 1980s almost one-in-three office workers will have a personal computer on their desk, predict consultants Butler Cox, and that will grow rapidly to one per desk in the mid-1990s.

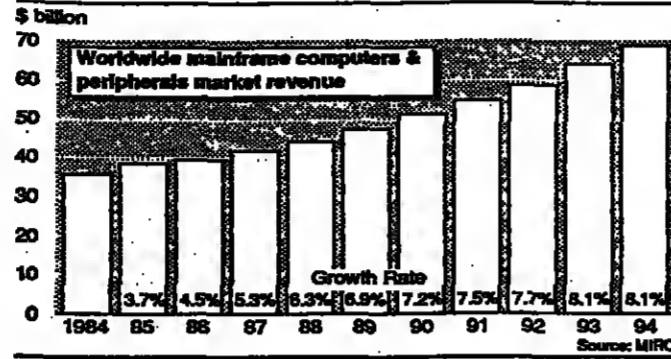
The challenge for companies now, argue equipment manufacturers, is to accept the need for office technology, and make it work for them. In particular, companies must develop an overall strategy, which has been sadly lacking in the past. "The problem is that technology doesn't appear in the office overnight. You don't go home one evening and discover when you get back that all the typewriters have been replaced by word processors," says Mr Paul Evans, group manager for networks marketing at computer manufacturer Digital Equipment. "Because it arrives a bit at a time, it is difficult to develop an overall strategy."

As a result, he believes that the ad hoc growth in office technology equipment has left managers confused, both about the technology itself and its

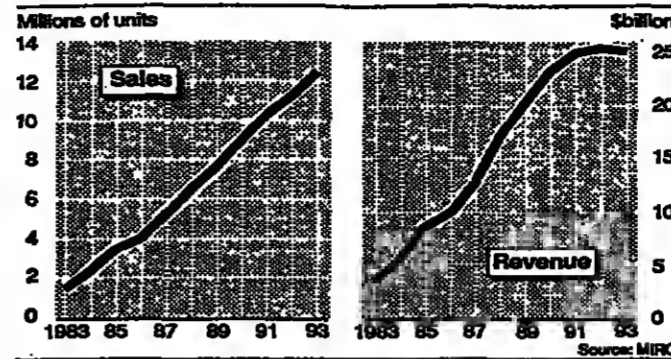


As various office systems become more closely integrated, the demarcation lines are also blurring between computer sizes and classifications.

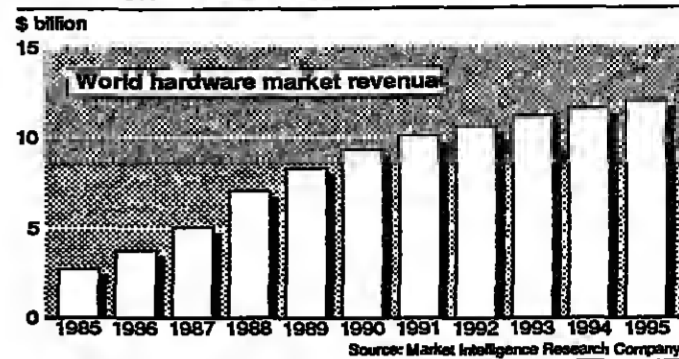
### Mainframe computer sales



### Worldwide PC market



### Fax machines market



# Technology in the Office

implications for the business. But if they are to develop a technology strategy to follow the company's business plan in the future, they have to "run ahead."

"It's not too difficult to see what companies like Digital Equipment and IBM will be doing in the next five years," says Mr Evans. "We won't have infrared keyboards and laser networks by then, for example."

So, what office technology will be installed in the next five years, and what facilities will companies need to take advantage of it?

Perhaps the most significant development will be in the area of desk-top PCs or workstations. They will become more powerful and much quicker to use, and considerably cheaper to buy. Even the traditional 'dummy' terminal, connected to the corporate mainframe and generally used for clerical tasks, is likely to be superseded by the workstation with its individual disk storage system. In addition, powerful systems will appear on the desks of staff formerly loath to use the equipment — the chairman or managing director, for example. One of the biggest growth areas in workstations

looks set to be in executive information systems (EIS), which allow company bosses to dip into the corporate database and extract and analyse key information.

Another potential growth area is desk-top publishing, where documents are drawn out on a computer screen and printed on a laser printer. Desktop publishing systems are already used for printing

in-house newsletters and technical documentation, but as the technology develops — particularly in colour printing — they could even be used for printing the office stationery.

The spread in workstations will bring numerous headaches for the office planners. More and more companies will realise that they cannot simply buy a couple of PCs and drop them onto desks. Today's personal computer with a colour screen, for example, requires up to three times as much electrical power as a data terminal with a monochrome monitor. And a laser printer needs up to

five times as much power as its dot matrix predecessor, says Butler Cox, in its report, *Information Technology and Buildings*.

The next generation of equipment will require a similar leap in power consumption. Mr Roger Camrass of Butler Cox relates the anecdote of one company in the City of London which discovered it would have to move buildings in

order to support the number of computer terminals it needed. It simply did not have room to install the "main power station" it needed in its basement.

In the future that will become the norm rather than the exception. The electric power requirements of office equipment will rise in the early 1990s to be four times what it is today. And as more of the vital company information is held on computer, and more offices become dependent on its use, there will be a growing need to provide a back-up power source in case of mains power failure.

As more power is used, so the amount of heat dissipated goes up as well. And that means the need for more air conditioning and a more sensitive heat control. And the forward planning does not end there. Perhaps even more important is the cabling needed to install these desktop machines — "most people are just trying to deal with the cabling which has been produced by the last explosive growth in terminals," reports Mr Camrass. "Now they are faced with this prospect of a mainframe on a desk."

Such a technological animal will require powerful wiring systems, argues Mr Camrass. Although laptop computers and mobile phones can operate on radio and infrared frequencies, the capacity needed to send video images from desktop to desktop could not be dealt with in this way. Instead it will need high capacity broadband wiring. And then there is still the main computer centre.

The bad news for the office developer is that up to ten per cent of the space in modern buildings could be required for technology — ducts for computer or telephone wiring, main computer rooms which

are bomb-proof and specially cooled, telephone exchange facilities, underfloor cabling and so on. This poses particular problems for companies building speculatively — when they do not know who will occupy the building before construction work begins.

If building companies take the need for specially allocated 'information technology' space into account, the price per square foot of office space will inevitably shoot up. If not, companies moving into the buildings could find themselves facing enormous bills — and disruption — for installing ducts and wiring that in what is supposed to be a modern office.

Professor Franklin Becker, of Cornell University, believes that in the US, building contractors have generally been more responsive than in Europe to the needs of business: "On the whole, the US market has been more responsive, but that is because US clients have been more aggressive," says Prof Becker. "They insist that when buildings are put up they are suitable for their requirements."

Butler Cox, London, tel 831 0101; National Business Equipment Survey, London, tel 483 2681.

the US furniture manufacturer Steelcase. The report showed that 77 per cent of senior executives and 87 per cent of interior designers anticipate that telecommunications and computer needs will impact heavily on facilities design in the future, (see page 2). They ranked it even more important than space costs, health and safety legislation and costs of office furniture and equipment.

In the UK, the concern of chief executives is less clearly defined. In a report conducted by the National Business Equipment Survey, researchers demonstrated that although the chief executive might be happy in his office environment, his or her staff may not be so content. The survey revealed that five times as many office workers were dissatisfied with the function of their offices as their chairman.

As company executives become increasingly aware that a pleasant and effective office environment will be a factor in helping them maintain their skilled staff into the 1990s, the picture could change quite rapidly.

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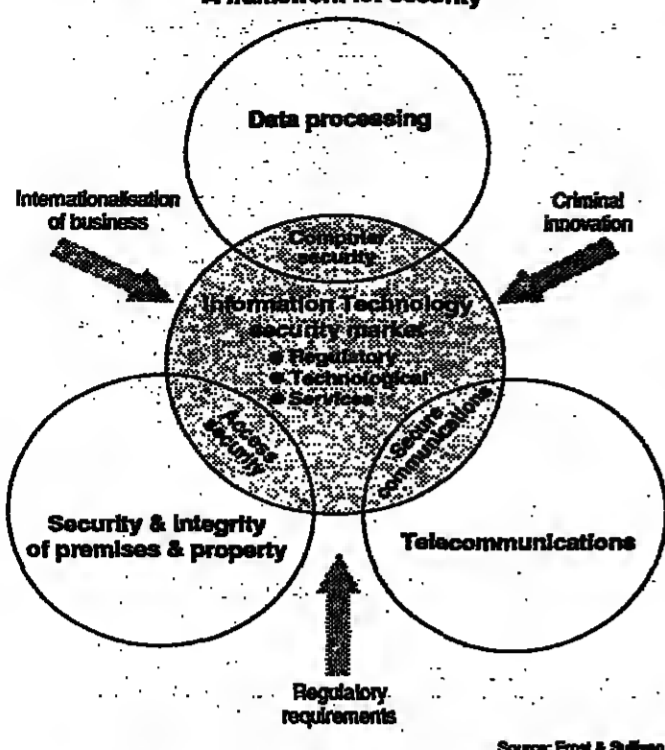




**TECHNOLOGY IN THE OFFICE 5**

**Information Technology**

**A framework for security**



**\$1bn market for office security systems**

AS OFFICES worldwide make increasing use of information technology systems, there is a growing awareness of the importance of proving security measures to ensure the constant availability and integrity of these networks — especially in the financial communities of Britain, West Germany and France.

The European market for security products and services for information technol-

ogy is worth \$1.1bn and could rise to over \$2.3bn by 1993, according to Frost and Sullivan, market analysts.

Forecasts are made for the value of markets in individual European countries, broken down into four main security sectors: access control and physical site protection; telecommunications security; database systems; and security services, including off-site data archives.

**Electronic mail**

**The need for PC power**

WHILE the use of facsimile has rocketed over the past couple of years, the uptake of other forms of text and message communication such as the electronic mail services, and telex have shown a somewhat lacklustre performance in comparison.

There are several reasons for this. Telex, for example, has suffered from slow transmission speed, time-consuming set-up procedures, high cost of hardware and the need for a dedicated operator.

Electronic mail has suffered from incompatibility between the various services such as Xerox's Gold and One-to-One; general staff found the systems difficult to access; users found it inconvenient to be forced to actively collect, as opposed to passively receive, messages; and users — not unnaturally — balked at having to pay to collect faxes that might well be

**Software solutions now make telex accessible from desktop workstations**

Junk mail. One of those problems have now been solved. For example, the advent of digitised telex networks means that users can access the facilities direct from a desktop PC via a simple message switch, which means that even small companies can now consider telex as a medium for fast and, more importantly, legally accepted text communication.

While British Telecom's 1988/89 results show that telex service volume has declined "with the continuing migration to facsimile and the effects of competition," the company agrees with Mercury that there is still strong demand from freight forwarders, importers/exporters, financial institutions and companies needing to communicate with third world countries.

It explains why, with Mercury claiming that it handles 30 per cent of all international telex traffic from the UK, BT is determined to progress its £100m investment programme which aims to provide an all-digital telex network by the end of 1993.

To date, nearly 60 per cent of its 116,000 telex connections are benefiting from 50 per cent faster transmission speed, store and forward telex and multi-addressing with faster set-up.

Used mainly by companies rather than individuals, there are some 1.7m telex terminals in use, according to statistics produced by German communications giant, Siemens.

Germany has most telex ports although, in relation to population, comes after Luxembourg, Switzerland, Hong Kong and Belgium. The UK is 15th with 19.6 telex terminals per 10,000 people.

Because the standards for telex, like fax, are internationally agreed and have been for some years now, there are a number of systems and software solutions already on the market that make telex acces-

sible from desktop workstations.

However, the launch of Mercury's 7200 telex service has led to an increasing number of purchasers demanding the ability to access both BT and Mercury networks to take advantage of least cost routing.

One of the companies responding to demand is Data & Control Equipment with the development of an 'Intelligent' upgrade for its TelexBox that offers auto-routing, via Mercury, for lower cost international traffic and, via BT, for UK services.

The BART approved UK-manufactured system connects PCs, word processors and even electronic typewriters to the telex network, obviating the need for specialised equipment. Ideal for smaller offices, up to eight separate users can be hard wired to send telexes, faxes or internal mail, while occasional users can have dial-in modem access to send and receive messages.

Looking at worldwide telecommunications statistics from Siemens, one can see why the more personal forms of communication, i.e. fax and E-Mail, would not be so popular in Third World countries. In 1987, there were 454m telephone numbers in the world. In the US, 50 per cent of the population has a telephone which compares with 22 per cent in Europe and six per cent in Central America and 3 per cent in Asia.

Britain lies 14th with 39 telephone numbers per 100 inhabitants. Because of the difficulties already cited with regard to E-Mail, many firms have turned to what is known as a value-added network services

**The early problems of incompatibility of electronic mail have now been solved**

(VANS) to route their electronic mail messages.

One such is The Direct Connection which claims to be able to send electronic messages to over 4m users on over 12,000 E-Mail and computer systems worldwide at a cost of 5p plus Vat per 1,024 characters.

Another, Com-Fox, not only provides a service but has just introduced an electronic messaging system for PC users which, based on the Intel 80386-based processor, supports up to 32 communications lines to give access to most forms of text and data communications.

Another development highlighting the trend toward multi-function message handling systems is the new Unix-based ADT 6600 from Alcatel Data System. As well as access to fax, E-Mail, telex, WPs, video-text, X.25 and so on, it offers such facilities as least-cost routing, auto-message re-direction, management statistics, pre-set transmission times and message security.

Another increasingly popular form of written communication is date broadcasting, a method recently chosen by Ladbrokes to send confidential

Continued on page 7

**Fierce competition as new suppliers enter the facsimile market**

**The fax phenomenon**

Fierce competition from such suppliers as AEG Olympia, Brother, Fujitsu, GPT Flessey, Hermes Fredesa, Minolta, Mita, Mitsubishi, Office & Electronic Machines (Triumph Adler), Olivetti Office and Toshiba.

Whether the market can sustain that amount of activity is open to question. But since there are over 454m telephones in use around the world, 20m of them in the UK, penetration of fax has hardly scratched the surface.

Amstrad, then, should not be unduly concerned about being late into the game. Certainly the company's new FX 9600T should give the competition a run for its money. On the face of it, the price of £699 was a disappointment, with some eager market-watchers hoping for at least a sub-£500 list price. However, closer examination of the features confirms the trend towards feature-packed entry level machines that would have cost nearer £2,000 last year.

The first fax to be Mercury-compatible, it comes with fully featured integral handset, LED display, 100-number memory, auto-paper cutter, 20-page auto-sheet-feeder, auto-redial, 18 shades of grey and halftone, on-board battery backup, "paper-out" alarm and red star

mark providing proof of delivery.

More interestingly, it can be connected to a PC allowing direct transmission without an intermediary print-out; it can be used as a scammer to capture the user's signature for auto-addition to each fax message;

**Facsimile is the preferred method of electronic text communications, says Julie Harnett**

and it can be used as an IBM-Epson compatible printer or occasional copier.

Another machine epitomising the trend towards greater sophistication is the Sharp FO-550, a combined fully-featured telephone and fax which can be connected to most telephone answering machines in order to receive, completely automatically, voice, fax or recorded messages.

With a list price of £1,645, it also has a 14-page memory. What many buyers in future will be looking for, however, is CCITT ECM (error correction) conformance, the new standard which guarantees clear, error-free fax transmission between all Group 3 machines.

It is a feature that will be greatly appreciated by serious fax users who know the frus-

tration of having to manually re-transmit messages that have suffered from a poor line. We are already seeing a plethora of new machines with CCITT ECM.

For example, following in the footsteps of Panasonic and Pitney Bowes is Alcatel Data

Systems which promises the launch in November of two such machines, one of which boasts 11-second transmission, a real cost-saver if you send a lot of faxes.

Another trend is toward the development of machines with larger memories which enable users to store confidential messages, create personal mailboxes, store fax messages for later transmission at cheaper rates or to co-incide with different time zones, or for storing incoming messages if the paper has run out.

However, while a fax machine may boast a 2Mb memory which, in personal computing terms, means the ability to store some 1,000 pages of A4 text, with image technology like fax, it only allows the storage of around 60

pages.

Highlighting the trend is the new Sharp FO-800 CCITT ECM fax unit which has a price tag of £3,296 and comes with an expandable 70-page memory.

More advanced still is the new 120-page memory Nefax 440 from NEC, which offers A3 transmission, enables you to broadcast stored faxes to over 200 destinations automatically and is priced at £3,395.

Batch transmission, a new feature, allows documents to be stored in separate segments of the memory for up to single transmission to a maximum of 10 destinations at a pre-registered time — ideal if you accumulate a number of messages during a day for each of your overseas offices, for example.

The addition of departmental access codes and sectionalised reports ensures easier cost allocation. Junk fax is an epidemic in the US and a growing problem in the UK as direct mail and marketing companies begin to address the extensive base of fax users.

Most junk fax is transmitted at night, when rates are cheaper and there is no one there to switch the machine off. With the high cost of thermal paper, nobody wants to be faced with reams of unsolicited messages. Pitney Bowes has developed a

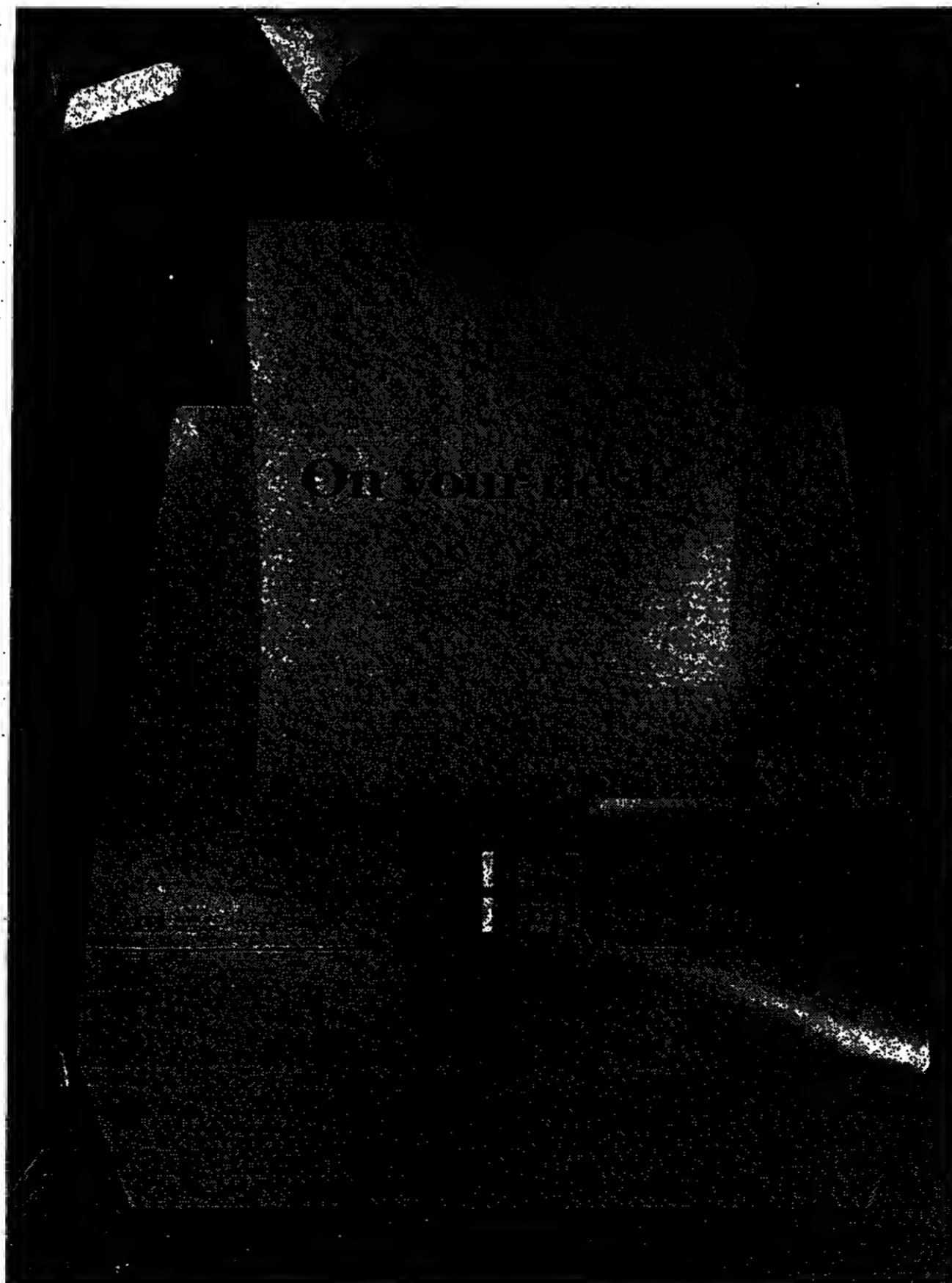
software option for the model 8050 whereby it will refuse to accept transmissions if it does not recognise the CSI (Calling Station Identifier).

The new Konica 300 will foil them, too, since that will only handle authorised transmission/reception. Thermal paper may serve its purpose in terms of messaging, but the heat generated during transmission tends to make it curl, resulting in mixed up messages in the receiving tray; images tend to fade in a relatively short space of time; and it is difficult to write on, making text corrections difficult.

What most fax users have been patiently awaiting, then, is the affordable true plain-paper fax. That promise became a reality in June this year. The first to deliver was Canon who launched the £450 L320 laser fax which can transmit an A4 page in 12 seconds.

As well as 50-300 per cent zoom, it offers book scan mode (up to A3) with a flat platen for direct transmissions, speed dialling, 65-page memory, sequential broadcasting to 151 locations and batch transmissions to 24 destinations.

Next to introduce a plain paper fax was Ricoh with the £4,995 Fax 1000L, followed by Infotec with the 6765 at £4,650. Features common to both include CCITT ECM, ID-codes to prevent junk mail reception, maximum 750-sheet paper capacity, 50-page memory with 72-hour battery backup in case of power failure, 64-step halftone and contrast control and A3 transmissions.



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## TECHNOLOGY IN THE OFFICE 6

Computer-related furniture systems offer advanced facilities

## Solutions for cabling problems

ISSUES such as how to solve cable management problems and make better use of expensive office space have helped to boost the market for computer-related "systems furniture," now worth \$670m in the UK alone and likely to rise to \$890m by 1990, according to a new report.

The increase in office automation, high office rents and a growing awareness of the company image have all helped to boost sales of space-saving, screen-based "systems" furniture, equipped with advanced cabling facilities.

A leading player in the international market, such as Herman Miller - with a worldwide turnover of \$793m last year - has seen "steady growth" this year, according to Andrew McGregor, managing director of Herman Miller Europe.

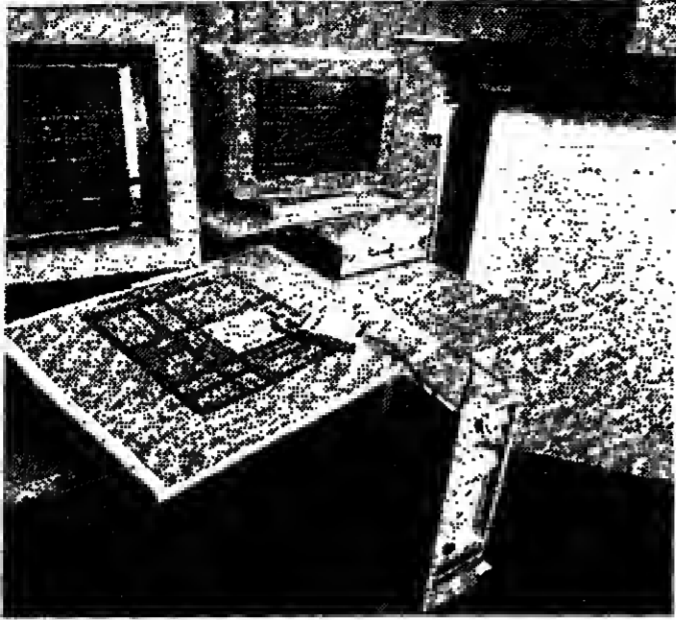
The Steelcase group, by far the world's largest manufacturer of office furniture, with a turnover of \$4bn, now has 25 per cent of the US systems market. It has seen its turnover in Europe increase from \$198m last year to over £250m this year.

In Britain, Steelcase Strafor has just taken over the Gordon Russell group, the long-established manufacturer of office furniture, which includes Harvey and Giroflex Seating, reflecting the rationalisation now going on in a fragmented marketplace.

Project, the largest British-owned manufacturer of office furniture, confirms that the issue of making more efficient use of office space is a main concern among systems' buyers. Project, with a turnover of over £50m, will launch a new systems range next year and is expanding its European growth through mergers and acquisitions.

With its French associate, Atal, which also has a turnover of more than £50m, Project - and Voko of West Germany, and Steelcase Strafor - are probably Europe's top three furniture manufacturers.

Despite the momentum in the systems market, there have been forecasts in the UK of some slowing down in the sector after five years of boom. Even so, a report by Business and Research Associates claims that the overall market is growing at 30 per cent this year and may increase by 21



More suppliers of office furniture systems are using computer-aided design to revolutionise the formerly lengthy process of planning and re-designing office layouts. On the Colston Computers system at Bristol, floor plans stored on the computer above can be called up on screen (left), office furniture (drawn to scale) re-arranged as desired, and the finished result printed out on a plotter (right), all within minutes.

per cent for the 1989-1990 period.

While there may be some slow-down in the lucrative London systems market - for example, in sales to the financial community - the UK systems sector is still moving forward strongly in areas outside of London, particularly in high-tech industries, according to Matthew Davis of Steelcase Strafor. The company has just launched its Valencia range in the UK - a panel-free-standing system, already popular in the US.

In the early days of systems furniture, companies in Europe had little option but to buy expensive imports. Now the picture has changed, says Jean Davis of Corporate Connections - "manufacturers, many of them British, have opened up the middle ground, where before there was no such ground. They have upgraded the quality, design and choice of mid-priced systems, so that they now present serious competition."

From a marketing standpoint, the increased competition could bring a greater emphasis on direct sales, suggests Mr Gautam Barua, direc-

tor of the London-based National Business Equipment Survey. Estimates of market size vary considerably in the industry, due to varying definitions of systems, screening and desking for the automated office.

Paul How, managing director of Asher Systems, part of Pentos, says: "We are looking for market growth of over 10 per cent a year. Any company that wants to make an impact in the UK has to invest serious money in design, manufacturing and marketing - and that is precisely what we're doing."

The range of systems products is continually expanding. The first design from Herman Miller's European and development team was launched this month at the Designer's Saturday event in London. The range, called the Jaeger Group, features free-standing desks and conference tables, compatible with Miller's up-market Ethospace Interiors.

Under the title of Office Pavilions, Miller is launching a second tier to its dealer network, which aims to provide the end-user with a "total package" by forming alliances with up to a dozen leading sup-

pliers of lighting, seating and other facilities.

For the past five years, European systems suppliers have worked hard to create dealer networks, similar to the sophisticated US pattern. Some of the most successful of the dealerships created in the UK have been led by experienced management teams at the helm of major US systems companies. Among the more prominent are Business Design Group, Facility Group (headed by former Miller management), and Bristow Design Systems, (former Steelcase management).

John Sachs, chief executive of President Office Furniture, says that "manufacturers generally, and President in particular, are getting closer to the end-user - it is becoming a partnership between manufacturer and dealer, strengthening the support, and so helping the dealers to secure business."

Steelcase Strafor, which now has more than 170 dealerships in Europe and nearly 6,000 employees - excluding operations in the US and Japan - provides facility management advice to clients wanting to improve asset management and office cost-containment.

Despite the advancing cable-management facilities of systems furniture, a recent report by a leading architectural group, and sponsored by Project Furniture, claims that manufacturers' brochures and sales literature did not always adequately present the capabilities of systems in areas such as standards, safety and technical capabilities - "general assumptions from literature were correct and rarely proved wrong, but in many cases, discoveries were made at showrooms."

Alan Trotter, marketing director for Carson, the UK manufacturer of wooden furniture systems, sees the architectural and design community becoming an increasingly powerful force in office planning - "design houses are now far more willing to undertake the total support of the project, from survey, design and supply right through to project management."

\*Business Research Associates, 9 Market Street, Stockport, SK12 2AA (tel. 0662.65202).

Michael Wiltshire

THE ISDN (integrated services digital network) revolution in telecommunications will soon make itself felt in the office. In addition to benefits such as better speech-quality and the increased speed and quality of Group 4 facsimile, it will support a new range of business services.

One of the most promising application is video-conferencing where recent developments in technology, coupled with ISDN, may enable it to become a widely used cost-effective tool.

As well as providing face-to-face contact between the one or more people at each end of the link, video-conferencing systems normally incorporate facilities for complete audio-visual presentations. These include the use of "overhead" or 35mm slide transparencies, together with displaying documents and diagrams.

Thus, virtually every requirement that one would expect of a meeting is satisfied even - though users are not talking across a table.

Video-conferencing has been made possible by the development of techniques to "compress" the video information so that it can be transmitted via ordinary telecommunications circuits, rather than dedicated, high-speed data circuits.

Initially, however, in view of the high cost of the specially built equipment, the limited degree of compression then obtainable and the high cost of telecommunications paths, it did not become widely used.

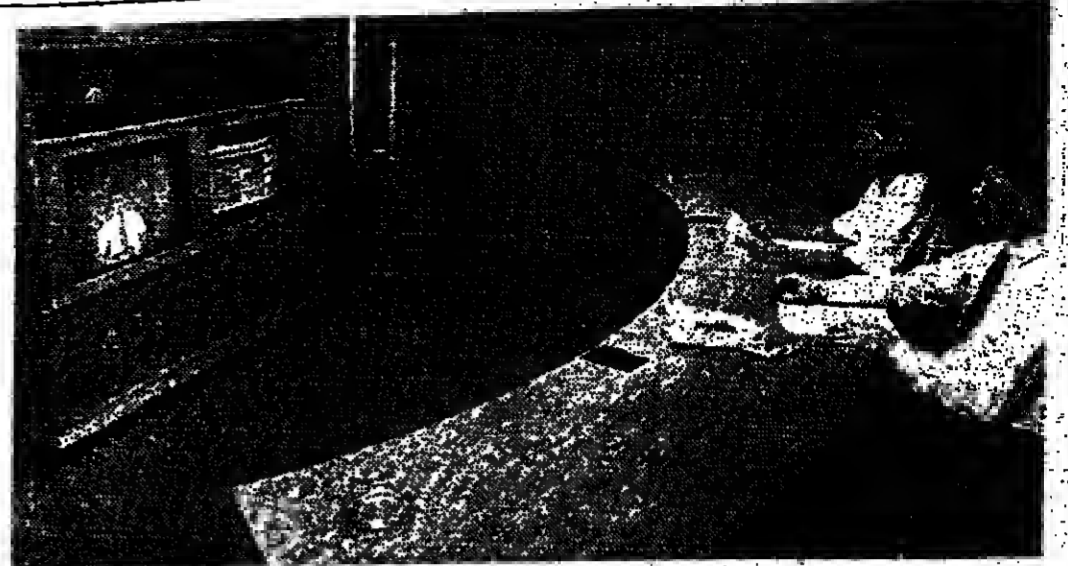
Since then, improvements in technology now enable adequate performance for most business purposes to be obtained from much more widely available, low cost, digital telephone lines.

Additionally, international standards are evolving which will result in compatible systems across the world.

According to Tim Duffy, GPT's director of data systems "a turning point has been reached in the acceptance of business video communications...GPT has seen growth in video-conferencing in the region of 40 per cent in the past 12 months. Once users can dial-up video meetings as easily as making a telephone call, I believe the medium will become commonplace."

An example of a large company which takes video-conferencing seriously is the Ford Motor Company. It has an international network with links between Detroit, Brentwood in Essex and the company's design and R&D centre at Merkenich in West Germany.

Furthermore, no matter how carefully one prepares and briefs oneself, almost invariably some points are overlooked. The result being that the meeting is not as productive as possible.



Face-to-face meeting via a GPT video-conferencing suite

How new technology connects offices for cost-effective video-conferences

## Worldwide link-ups

This involved a large investment in specialised equipment and in suitable telecommunications links. If they were just starting today, the required investment would be appreciably lower.

When companies initially consider video-conferencing if they were not put off by the high costs, their initial considerations are generally concerned with direct savings in the costs such as air fares and hotel bills and so on, rather than in improved business efficiency. They rapidly find, however, that not only is the decision-making process accelerated, information flow between communicating establishments is greatly enhanced.

Where executives have to travel, for example, across the Atlantic to attend meetings it is a very inefficient use of time. (Putting aside the frequently unspoken desire to get away from one's office or even home.) It is impossible to believe the amount of the trip while far more time is spent in travel than in the actual meetings.

Furthermore, no matter how carefully one prepares and briefs oneself, almost invariably some points are overlooked. The result being that the meeting is not as productive as possible.

On the other hand, when using a video-conference link specialists can often be called in without delay to clarify a point. Where technical matters are involved, meetings directly between specialists obviates misunderstandings.

In addition, face-to-face meetings between staff at all levels will enhance co-operation. After all, as it is more re-assuring to deal with a person you know, rather than a faceless voice, video-conferencing can cement relations between establishments where the people are distant in mind as well as miles.

As ISDN becomes widely available it will provide the digital circuits necessary to allow dial-up operation of video-conferencing - to become more universally applicable.

However, even today dial-up digital circuits are available from both British Telecom and Mercury which can be used for this purpose and more suitable equipment is becoming available.

Earlier this year, Bain & Co, the British subsidiary of the international management consultancy installed what is said to be the first dial-up video-conferencing system.

Manufactured by Picomtel of Massachusetts, which claims to hold over 80 per cent of the world installed base of low

data rate systems, it uses the equivalent of two ordinary 64k-bits (digital) telephone lines instead of fixed broadband and satellite links.

As the cost is roughly £100 per hour, once the equipment is installed, there is no financial barrier to transatlantic face-to-face meetings.

Furthermore, they can dialled up as and when needs arise, without any long term planning, because one does not have to book international circuits.

Jain McKerscher, marketing director of Data & Control Equipment, the company which provided Bain with the equipment says that "the financial community has been the first in the UK to use dial up video-conferencing systems. New users will quickly take up the technology for all manner of reasons - besides the obvious savings in travel costs and unproductive executive travel time."

Some, according to McKerscher, "already claim that decision-making is made more quickly and effectively." In addition, people's commitment to the actual decision is more positive as they were able to participate in the "meeting". This is a vital factor in an increasingly competitive age.

Earlier this year, Bain & Co, the British subsidiary of the international management consultancy installed what is said to be the first dial-up video-conferencing system.

Manufactured by Picomtel of Massachusetts, which claims to hold over 80 per cent of the world installed base of low

data rate systems, it uses the equivalent of two ordinary 64k-bits (digital) telephone lines instead of fixed broadband and satellite links.

Adrian Morant

Rank Xerox have office equipment to help you every step of the way in creating, producing and communicating your ideas.

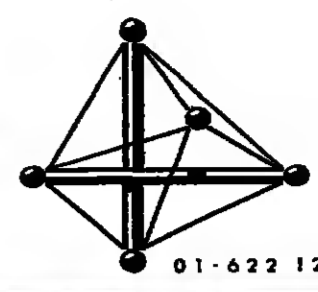
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FINANCIAL TIMES COMPANIES & MARKETS

Monday October 23 1989

INSIDE

Scientific soldiers man the thin red line

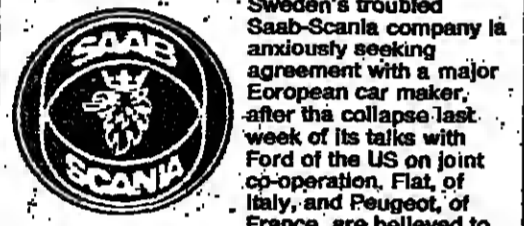
While bigger groups re-position themselves to take a bigger share of a stagnant defence equipment market, medium-sized companies face hard choices. Do they get out of areas where the cost of keeping up is too high? Do they try to make their niches more secure? Do they go for international links to gain entry rights to other Western markets? United Scientific Holdings was one such UK company trying to resolve such dilemmas when last month it became subject to a hostile bid. David White looks at the ups and downs of this one-time star of the defence business. Page 28

Sizeable handicap for IBM



Announcing a 30 per cent fall in IBM's quarterly profits last week, chairman John Akers, stated that the company's performance was disappointing. He said that the company's performance was disappointing because of a number of factors, including a 30 per cent fall in quarterly profits. He also said that the company's performance was disappointing because of a number of factors, including a 30 per cent fall in quarterly profits. He also said that the company's performance was disappointing because of a number of factors, including a 30 per cent fall in quarterly profits.

Saab searches for a European co-driver



Sweden's troubled Saab-Scania company is anxiously seeking agreement with a major European car maker, after the collapse last week of its talks with Ford of the US on joint co-operation. Fiat, of Italy, and Peugeot, of France, are believed to be having separate discussions on a possible deal with Saab-Scania, the car division of which looks set to lose over SKr1.8bn (\$290m) this year. Robert Taylor reports. Page 23

Market Statistics table with columns for various financial indicators like 3-month bank rate, 10-year gilt, etc.

Companies in this section table listing various companies like UK Automotive Products, Engle and Int Test, Jaguar, etc.

The first of Norway's financial longships

To compete at home and abroad two of the country's top three banks plan to merge. Karen Fosli reports.

The planned merger between Bergen Bank and Den norske Creditbank (DnC), two of Norway's top three banks, to form Den norske Bank (DnB) is the single most dramatic event in Norway's 130 years of banking history. It will create Scandinavia's seventh largest bank with combined assets of Nkr210bn (\$30bn). Today the boards of the two banks will consider proposals for the exchange and valuation of their shares, the first stage in implementing the merger plan which was announced earlier this month. It subsequently received a public endorsement by Mr Gunnar Berge, Norway's finance minister.



Table comparing DnC Group (Nkr) and Bergen Bank Group (Nkr) for 1987 and 1988, including metrics like Net losses on loans & guarantees, Net profit/loss, Total assets, etc.

Bank and Nkr1.26bn for DnC. Faced with these problems and the challenges ahead, executives of the top three banks have warned throughout this year that individually they will seek partners - preferably in Norway, or, reluctantly, more widely in Scandinavia - to try and strengthen their position. The merger between Bergen Bank and DnC has nevertheless raised questions about the timing of such a bold move. "The merger comes at a time when each bank is seeking to recover from a period of financial difficulties with credit losses at very high levels by international standards. The extent to which there are lingering financial difficulties may reduce the time that management has to successfully execute the merger," believes Standard and Poor's, the US-based credit rating agency.

The US lobbies overreach themselves

First, a straw in the wind. Nearly a year after its election victory, the Bush administration still has 77 vacant senior posts for which it has not even nominated a candidate. Last week it got around to offering a medical appointment to the brother of Senator Robert Packwood, a powerful Republican who has played his own interesting part in the events of the last few days. What, Dr Packwood was asked, was his attitude to abortion? If that was the question, he replied, he wasn't interested in the answer, they had better look for another candidate. The abortion issue, as the President no doubt knows, has emerged as the dominant political issue of the fall. It will probably be decisive in many pending elections at the State level, and may well be in future elections, too. State victories could give the Democrats enough votes to ensure that the electoral re-districting which is required to reflect population shifts will not give the Republicans the advantage they expected. That would affect the political balance for a generation.

right-to-lifers can swing enough votes to push some of their sympathisers to victory in Republican primaries; but the same convictions threaten to defeat these candidates in the elections. Mr Bush, a prisoner of his own right-wing rhetoric, can only squirm. It would hardly be worth drawing your attention to this American tragedy-comedy if it was not for the fact that it says a lot about the whole American system. US political candidates must win primary elections among their own supporters, and then depend upon heavy private financial support to win the subsequent television campaigns. This combination makes American candidates more dependent than politicians in any other country on organised lobbies. It means that failing a clear national crisis, or strong national leadership, the political agenda is set by special interests.

those in Congress who spoke for the thrift industry are under investigation. The most powerful of all current lobbies, and potentially the most dangerous, is the old-age lobby, the American Association of Retired Persons, or AARP, some 25m strong. It is this group which has blocked the taxation of social security benefits, a sensible policy supported by the Budget director, Mr Richard Darman, and the chairman of the Council of Economic Advisers, Dr Michael Boskin, who would be an unbeatable alliance on most issues. The grey wolves, as the retired are known, scored another triumph last week with the defeat of a bill which would have allowed the President to advance until they overreach themselves, and are driven back. The fundamentalist lobby seems to have reached this point, and it may not be the only one. The military-industrial lobby, which thrived during the cold war just as President Eisenhower feared it would, now looks likely to be defeated by detente and budgetary constraints. Nearer home, the Wall Street lobby, which has so successfully pushed for deregulation, is now at least shaky, as LBOs are now seen as undermining US industry and its financial structure, and



By Anthony Harris in Washington

Economics Notebook

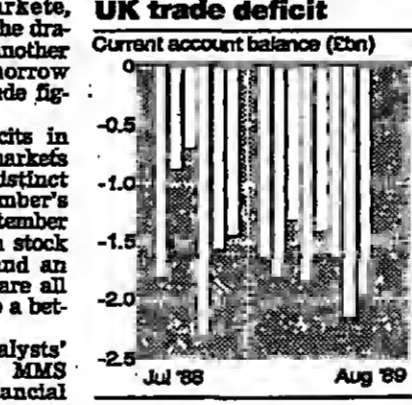
Questioning the currency of Lawson's Much-Binding view

MR NIGEL Lawson's Mansion House speech last week confirmed that the Chancellor will press on with his plan for competing currencies within the European Community. Lawson's view is that the two currencies would be used simultaneously, and that the government would accept tax returns and payments drawn up in any EC currency. This is not a matter, as some have fancifully suggested, of requiring the village shopkeeper in Much-Binding-in-the-Marsh to accept payment in drachmas. The Chancellor said "He would be as free to decide what forms of cash he will accept as he is to decide whether or not to accept a particular credit card."

THIS WEEK

UK FINANCIAL markets, having recovered from the dramas of last week, face another daunting task tomorrow when the September trade figures are released. After the shock deficits in July and August, the markets are hoping to see a distinct improvement in September's data. A sharp fall in September car sales, a reduction in stock levels by companies, and an increase in oil exports, are all expected to contribute to a better trade picture. The consensus of analysts' forecasts, compiled by MMS International, the financial research company, is for a current account deficit of £2.5bn, compared with the £3bn (£2.1bn) trade shortfall recorded in August. City analysts have warned that if the deficit is anywhere near £2bn, the pound could come under renewed and heavy selling pressure in the currency markets. If intervention by the Bank of England subsequently failed to halt sterling's decline, the pressure on the Government for another rise in interest rates to protect the currency would intensify.

UK trade deficit



could provide a focus for fears of accelerating inflation. The figures are expected to show an increase in consumer prices of 0.3 per cent for the second month running, taking the annual rate of growth to 3.2 per cent. This would be the highest inflation rate in West Germany seen this year. Other events and statistics published this week (with MMS International consensus in brackets) include: Today: West Germany, export and import prices for September. France, trade balance and consumer prices for September. Canada, retail sales for August. Tomorrow: UK, building society receipts (£4bn) and cyclical indicators for September. US, durable goods orders (down) for August and shipments for September. Wednesday: UK, construction/new orders for August. West Germany, weekly money supply figures and wholesale turnover for September. Australia, balance of payments for September. US, existing home sales for September. Thursday: US, import/export prices third quarter 1989. West Germany, Bundesbank council meeting. Friday: US, personal income and consumption for September. Japan, current account, consumer prices and preliminary industrial output for September.

Advertisement for Société Générale de Belgique - Generale Maatschappij van België, featuring Pioux Franki S.A. and Van Roey N.V., and Dillon, Read Limited.





INTERNATIONAL CAPITAL MARKETS

US MONEY AND CREDIT

Weak distress signals amid the fury Lawson has his cake, and eats it

IN THE turbid ebb and flow of credit across frontiers and ages, the attempt this autumn by a group of men to buy United Airlines with \$7.2bn in borrowed money has the look of a high-water mark.

consider that when airline stewards and stewardesses are asked to finance leveraged buy-outs, speculative credit has reached its outer limit.

People seemed chastened. But they were not all that chastened. In the course of last week the Dow recovered 119.88 points. An earthquake in San Francisco unleashed a raging bull market in insurance and re-insurance stocks.

an annual rate of 1.6 per cent in the four months since June. Excluding food and energy prices, which tend to move with the seasons and are volatile, consumer price inflation ran at 3.1 per cent during the summer.

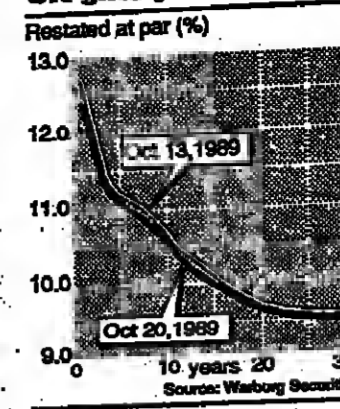
UK GILTS

Lawson has his cake, and eats it

THE SPEECH by Mr Nigel Lawson, the Chancellor, at the Mansion House last Thursday added little to the market's knowledge of the economy; it already knew that getting inflation down and the current account heading towards balance would take a long time.

sequences of fiscal surplus - is framed in terms of broad money neutrality. If broad money is unreliable and misleading, why be so concerned about the effects of over/under-funding on M4?

UK gilts yields



M0 is important - it gives reliable estimates of money GDP growth, although it is a poor predictor of inflationary pressures to come - as its exchange rate stability. Where these two indicators fail, judgment prevails; a clear victory for Mr Lawson and his senior advisers over those in the Treasury who think the economy has been subjected to too much judgment recently.

On Wall Street, where UAL stock is trading down 40 per cent from its high, the take-over speculators are bloodied but hanging in. Rather than cut their losses, the arbitrageurs are saying: if United was worth buying at \$70n, it's a steal at \$4.50n. Trust us. More prudent investors may stop and ponder. They may

It was thought of this sort that caused the stock market to collapse 10 days ago. The Dow Jones Industrial Average fell 190.58 points in little more than an hour. Hardened bulls were openly saying that the days of easy money for difficult deals were passed.

As Mr Robert Brusca, chief economist at Nikko Securities, put it last week: "In 1987 the stock market crashed but it landed on an economy that was taking off. What happened this time round was much less severe but it comes at a time when the economy is weakening. It is a very inhospitable environment."

For the Treasury market, the bullish case is scarcely stronger. It can be argued that the era of high yield, the roaring 1980s of junk bonds and leveraged buy-outs is drawing to a close.

So T-bills are now outside the funding rule and a modest return to overfunding has occurred. But that is not the

The Chancellor himself recognised this when he said on Thursday: "It has become increasingly anomalous to chase our tails in this way."

only area where Mr Lawson has modified the rule with a bias towards overfunding in the current circumstances.

Being more definite is difficult as the operation of policy has become more discretionary than it was before Mansion House. In all likelihood the market might regain some of its old shock absorber qualities. If the Bank stops supporting the market then the potential for a flattening in the yield curve is a distinct possibility.

Simon Holberton

Table with 5 columns: Instrument, Last Friday, 1 week, 4 wks, 12-month High, 12-month Low. Rows include Fed Funds weekly average, Three-month Treasury bills, Six-month Treasury bills, etc.

Table with 5 columns: Instrument, Last Fri, Change on wk, Yield, 1 week, 4 wks. Rows include 30-year Treasury, 20-year Treasury, 10-year Treasury, etc.

Money supply: In the week ended October 9, seasonally adjusted M1 fell \$3.3bn to \$786bn.

Table with 5 columns: Instrument, Last Friday, 1 week, 4 wks, 12 wks, 26 wks. Rows include Government Bonds, Municipal Bonds, Corporate Bonds, etc.

The latest disinflationary signal came from the Labour Department on Thursday. The department said that consumer prices rose just 0.2 per cent in September with prices in some sectors of the economy, such as transportation and energy, actually falling.

Yet the Government's funding policy choices it makes in dealing with the con-

So T-bills are now outside the funding rule and a modest return to overfunding has occurred. But that is not the

In the current circumstances this could mean that intervention will not be sterilised. If, however, the exchange rate were to appreciate and the Bank intervened to hold it down, then the intervention might indeed be sterilised.

So where does the Mansion House speech leave the market in terms of its understanding of monetary policy?

Table with 5 columns: Instrument, Last Friday, 1 week, 4 wks, 12 wks, 26 wks. Rows include Government Bonds, Municipal Bonds, Corporate Bonds, etc.

Swiss launch two funds

SWISS BANKS have launched two Luxembourg-based international investment funds, both of which are to open subscriptions today, writes John Wicks in Zurich.

James Buchan

FT/AIBD INTERNATIONAL BOND SERVICE

Large table listing international bond services with columns for instrument, yield, and price. Includes sections for US Dollar, Swiss Franc, and other currencies.

Teledom Telecom Corporation of New Zealand (Overseas Finance) Limited advertisement. Includes text about NZ \$75,000,000 bonds due 21st September 1993, and a list of partner banks and financial institutions.



UK COMPANY NEWS

New cash injection plan put together by Systems Reliability  
**Optim drops bid and restructures**

By Andrew Hill

SYSTEMS Reliability Holdings, the telephone systems designer and computer dealer, is leading a restructuring plan to revive Optim Group, the USM-quoted supplier of computer systems. Optim, which has been suffering from cash flow problems and high borrowings, announced a cash subscription and a 4-for-15 rights issue, which will together raise \$4.5m. Optim is also abandoning the \$2.37m all-share acquisition of Zelix, a computer services group.

Together by SRH's chairman and chief executive, Mr Robert Evans. He joined the group from Hilldown Holdings last year and will become executive chairman of Optim. The rights will be made at 10p a share, against Friday's closing price of 24p, up 6p. A consortium and syndicate led by SRH are subscribing for new shares at the same price. In addition, Brown Shipley, which provided long-term loans for Optim when it floated on the USM in July 1988, has agreed to convert \$2.5m of debt into equity at 16.25p a share. Mr Evans said he did not see any value in mounting a full takeover for Optim at this stage. "By taking a 5 per cent stake and management control we

can see what we have got and sort the company out before going too far down that road," he said. After the recapitalisation, the main consortium members will hold 13.3 per cent of Optim's enlarged capital. SRH will hold 5 per cent, and the balance will be held by Mr Michael Shafran, Mr Christopher Rieger and Tranwood Capital, the investment subsidiary of the financial services group, Tranwood. Mr Shafran is chairman of Global Group, the quoted importer and exporter of meat products, and has known Mr Evans since he was at Hilldown. He will join Optim's board as a non-executive director. Mr Rieger, an SRH director, will become an executive direc-

tor of the computer systems group. Other holders of Optim's enlarged equity will include Brown Shipley, with 20 per cent, and the existing directors, with 4 per cent. The subscription shares not taken up by the main consortium members are being bought by institutional and private clients of Henderson Crosthwaite, where Mr Shafran is a director, and of Tranwood. The Henderson clients will hold 16 per cent of Optim's enlarged equity, and Tranwood customers will hold a further 25 per cent. Among the new Optim institutional investors are two existing SRH shareholders - Prudential and Provident Mutual - which will own more than 5 per cent each.

**New shape Jantar starts to progress**

JANTAR showed progress in the first half of 1989, making a pre-tax profit of £54,000. That compared with a loss of £24,000 in the corresponding period and with a profit of £30,000 for the whole of 1988. The company, a former shell mixing and minerals trading undertaking, was acquired by Mr Stephen Parris and European Trust in April. It later acquired Cargo Control Equipment, a maker of load restraint equipment and that represented the first stage in the development of Jantar as an industrial holding company, initially concentrating on the light engineering sector. Mr Parris, who is chairman, said the second half of the year would see the benefit of contributions from Cargo Control, Jaggard's Tiltman and TV-Safe and Transquip. The level of trading in those companies was up to expectations. Jantar continued to look for further opportunities to develop within the transport services sector. He said it was intended to return to dividends as soon as appropriate. The last payment was for 1985.

**BOWATER INCORPORATED**  
RECORD SALES CONTINUE  
IN FIRST NINE MONTHS OF 1989

	9 Months ended 30 September 89	9 Months ended 1 October 88	Change
<b>SALES</b>	<b>\$1,082.3m</b>	<b>\$1,043.1m</b>	<b>+3.8%</b>
<b>INCOME BEFORE TAX</b>	<b>\$205.1m</b>	<b>\$221.2m</b>	<b>-7.3%</b>
<b>NET INCOME</b>	<b>\$112.4m</b>	<b>\$118.8m</b>	<b>-5.4%</b>
<b>EARNINGS PER SHARE*</b>	<b>\$3.00</b>	<b>\$3.16</b>	<b>-5.1%</b>

\* Not taken into account in the calculation of earnings per share has been reduced by the dividend requirement of the LBOOR preferred stock.

- » Newsprint shipments up by 3.2% over same period in 1988.
- » Newsprint operating income down due to increased price discounting and continuing pre-startup costs for new pulp mills.
- » Improved operating income from market pulp, coated paper and computer forms.

Chairman and Chief Executive A.P. Gammie reports - "Sales are continuing at record levels and demand for all our products is holding up well. Despite softness in newspaper prices, earnings in the first nine months already have made 1989 the second best year in our history."

**BOWATER**  
THE AMERICAN PAPER PEOPLE WITH A SOLID BASE FOR GROWTH

Bowater Incorporated of Darien, Connecticut is a major USA producer of newsprint, coated publication paper, bleached kraft market pulp and continuous computer forms.

SHARE STAKES

THE following changes in share stakes have been announced recently:  
Aiken House: FV Bachmann, director, bought 397,500 ordinary, increasing holding to 3,065 (6.23 per cent).  
Associated Farmers: Brit-N and NDS Brown increased interest to 250,000 ordinary (12.3 per cent).  
Coppymore: HS Goldbold bought total of 152,850 shares and owns 4.57m (40.8 per cent).  
Dolphin Packaging: HB Evans, managing director, purchased 2,000 shares at 105p and 19,000 at 103p, bringing beneficial holding to 6.4m (83.11 per cent).  
GI Robinson, director, made similar purchases and has a

beneficial interest in 4.26m (22 per cent).  
Edmond Holdings: Willesey Clay lifted beneficial holding to 7.12m shares (14.08 per cent).  
Frogmore Estates: Mark Heath Securities owns 8.8m shares (21.1 per cent) following purchases of 470,000.  
Eymar: Greiner Holding, privately-owned Austrian company, has acquired 5.06 per cent of the capital.  
Johnston Group: HF Gray sold 12,128 ordinary and left with 517,460 (4.94 per cent).  
LGW: CB McGuire acquired 8,500 ordinary at 80p. Holding now 3.16m (71.07 per cent).  
NMC Group: CJ Barker bought 49,500 shares at prices between

105p and 116.5p. Total holding 3.39m (8.7 per cent).  
Oceonics Group: On behalf of clients EBC Nominees (Jersey) has disposed of 1.5m shares; clients now own 4.76m (4.3 per cent).  
Pentos: Danae Investment acquired 7,945 preference shares; holding now 56,525 (56.52 per cent).  
Sunleigh: Babcock acquired 395,000 ordinary and holds 4.6m (20.02 per cent).  
Suter: has bought in 500,000 ordinary at 179p each. Total purchases 11.56m shares.  
Whitegate Leisure: Hornby Trading purchased 1.32m shares bringing holding to 10.88m (7.83 per cent).

**Automotive Products moves ahead**

Automotive Products reported continuing strong demand despite problems caused by interest rates in certain markets. Pre-tax profits for the six months to June 30 rose 5 per cent to £12.8m, against £12.2m. Turnover for this subsidiary of BBA Group was £12.3m higher at £173.7m.

**FT Share Service**

The following securities were added to the Share Information Service in Saturday's edition:  
Greyfriars Investment Company (Section: Investment Trusts).  
Presidio Oil Company 'A' shares (Oil & Gas).  
Ransomes 2.25p (Net) Cum. Conv. Pref. shares (Engineering).  
Tokai Bank (Banks).

**English and Intl net assets rise**

At October 5 1988, net asset value of English and International Trust had risen to 172.4p, from the 170.7p of six months earlier. On gross income ahead nearly £1m to £2.81m, earnings moved up from 1.65p to 1.85p. The interim dividend is 0.8p (0.75p).

**USING COMPUTERS IN BUSINESS AND INDUSTRY**

The Financial Times proposes to publish a Survey on the above on  
Friday 24th November 1989

For a full editorial synopsis and advertisement details, please contact:

Meyrick Simmonds

on 01-873 4540

or write to him at:

Number One, Southwark Bridge  
London SE1 9HL



**RATNERS GROUP plc**

£44,000,000 nominal 4 per cent.  
Convertible Bonds due 2002  
Adjustment of Conversion Price

NOTICE is hereby given to the holders of the £44,000,000 nominal 4 per cent. Convertible Bonds due 2002 (the "Bonds") of Ratners Group plc (the "Company"), that, pursuant to Clause 5 (B)(vii)(b) of the Trust Deed constituting the Bonds, following the grant by the Company of an additional right of conversion in respect of the 5.85 per cent. convertible cumulative non-voting redeemable preference shares of £1 each in the Company the Conversion Price of the Bonds has been adjusted, with effect from 11th October 1989, so that the Conversion Price is 479p per ordinary share of 10p nominal value ("Share").

Prior to the adjustment, the Conversion Price was 492p per Share.

**OVERSEAS UNION BANK LIMITED.**  
US\$100,000,000

Subordinated Floating Rate Notes due 2011

(Redeemable at the option of the Noteholders in 1996 and 2006)

In accordance with the provisions of the Notes, notice is hereby given that the rate of interest for the six months 23rd October, 1989 to 23rd April, 1990, has been fixed at 8 1/2%. The interest payable on the relevant interest payment date, 23rd April, 1990, will be US\$10,980.03 per US\$250,000 Note.

Agent Bank  
Standard Chartered Merchant Bank Limited

**GOLD FIELDS OF SOUTH AFRICA LIMITED**

(Incorporated in the Republic of South Africa)  
(Registration No. 05/04181/06)

**RESULT OF THE RIGHTS OFFER OF 13,828,045 ORDINARY SHARES**

Acceptances have been received in respect of 13,747,474 ordinary shares representing 99.4% of the offer which was made to shareholders in order to raise R1,026 million, net of estimated expenses of R11.1 million.

The balance amounting to 80,571 ordinary shares has been taken up by the underwriters to the issue.

Registered and Transfer Offices  
75 Fox Street P.O. Box 1167  
Johannesburg Johannesburg  
2001 2000

Brokers to the Issue  
(In the Republic of South Africa)  
Ferguson Bros., Hall, Stewart & Co., Inc.  
(Registration No. 72/08905/06)  
(Member of The Johannesburg Stock Exchange)  
(In the United Kingdom)  
Cazenove & Co.  
(A member firm of The International Stock Exchange)

Johannesburg  
23 October 1989.

**FINANCIAL TIMES STOCK INDICES**

	Oct 20	Oct 19	Oct 18	Oct 17	Oct 16	Oct 15	1989 High	Low	Since Compilation	Low
Government Secs.	84.59	84.70	84.66	84.78	85.27	83.79	89.29	83.75	127.4	49.18
Fixed Interest	93.74	93.20	93.40	93.37	93.77	94.08	99.59	93.20	105.4	50.53
Ordinary	1761.0	1772.1	1758.5	1736.7	1760.3	2015.0	2008.6	1447.8	2008.6	49.4
Gold Mines	197.3	193.2	190.6	192.5	184.9	204.7	213.2	154.7	734.7	43.5
FT-Act All Share	1097.64	1100.15	1089.30	1071.59	1078.89	1124.57	1225.80	921.22	1236.57	61.92
FT-SE 100	2179.1	2189.3	2170.1	2135.5	2163.4	2233.9	2426.0	1782.8	2443.4	98.9



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UK COMPANY NEWS

Preparing for the defence of its own territory

David White takes a look at the ups and downs of USH, the one-time high flyer facing a hostile bid

**A**SPECIAL kind of limbo has opened up for medium-sized defence companies. While bigger groups re-position themselves to take a still bigger share of a stagnant business, others face hard choices.

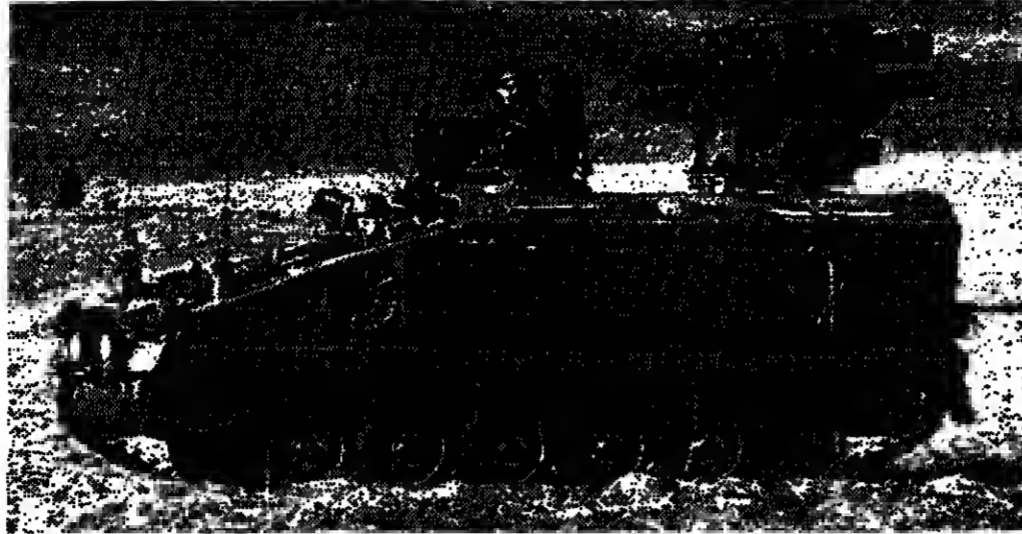
Do they get out of areas where the cost of keeping up is too high? Do they try to make their niches more secure? Do they go for international links to gain entry rights to other Western markets?

United Scientific Holdings was one such British company in the throes of trying to resolve its dilemma when the shadow of the predator fell across it last month in the form of a hostile bid from Meggitt, the instruments and engineering components group.

A star of the defence business in the 1970s, USH relies on military clients for 90 per cent of its sales. It employs 4,000, with a big US side, a French arm, and, unusually for a UK defence group, a manufacturing base in Singapore which is one of the biggest producers of military optics in south-east Asia. When Meggitt made its bid, USH was in the midst of a switch in emphasis to concentrate on growth in Europe and Asia.

The specific problem which made USH especially vulnerable lies at the heart of its main activity. The group has a solid armoured vehicle business, Avimo, and a smaller specialised simulation division, but electro-optical equipment accounts for 60 per cent of sales. At the centre of this business is Avimo in Taunton, which has big contracts it can neither drop nor make money on.

The once high-flying group has had its ups and downs since the beginning of the 1980s, from its failure to sell its Falklands-proven Scorpion tracked reconnaissance vehicle



Avimo's Stunner vehicle carrying Starstreak, the UK's air defence missile

in the US to having to fend off unwelcome attentions from Thorn EMI.

In the first half of its current financial year, USH plunged into a pre-tax loss of £5.5m, after a profit of similar proportions a year earlier. The figures included a £5m provision in respect of Avimo. Group sales were also 23 per cent down in the first half of its current financial year.

Mr Nicholas Prest, a former government arms export official who was promoted to deputy chief executive in May after the latest in a series of boardroom upheavals, says Avimo is "basically the main problem." The rest of the group has performed "reasonably" in the context of slack defence budgets.

Avimo lost £3m last year. The provision made earlier this year was for future losses then anticipated to arise on two major contracts.

By a twist of fate, USH has been impacted on the competitive arms-having policies erected by Sir Peter Levene, who was the group's managing director and then chairman before he left in 1985 to head the Ministry of Defence's Procurement Executive. From the 1960s he had helped build USH from a war-surplus retailer to manufacturer, expanding into the US and into the Avimo business, bought from British Leyland.

Avimo had been very successful in exports to countries such as Nigeria, Egypt, Algeria and Iraq, and in the UK had a reputation as a cost-effective manufacturer, involved in mass-production items such as binoculars and rifle sights, but was not deeply involved in UK Ministry of Defence research and development work.

By the mid-1980s export work had dried up. Instead of cutting capacity, Avimo

decided to go for build-to-print production projects in the UK, which were being opened up by the new MoD competition policy.

It won two UK contracts to build equipment developed by the Pilkington group. Both were at "firm fixed prices," which in MoD-speak means no adjustment for inflation.

One was for £18m-worth of Raven sights for GKN's Warrior combat vehicle, a contract lasting eight years with deliveries up to 1994. Accepting a no-inflation clause was, Mr Prest says, "a curious commercial decision." In addition, although Avimo had produced this kind of equipment before, it miscalculated the production hours needed.

The other, worth £17m, was for the Thermal Observation and Gummy Sight (TOGS) system for the Army's tanks. This broke new ground for Avimo - much more complex to build, subject to draconian testing and validation procedures, with the added difficulty, according to the company, of gaps in the manufacturing information supplied to it.

"It is clear from what we now know of the technical complexity of TOGS that the delivery schedule for the contract was far too ambitious," Mr Prest says. The programme should by now have been roughly completed, but only a small proportion has been delivered.

Avimo also went astray on an export contract it is more discreet about, but which is known to have involved sights for Egypt. It again underestimated the work required.

Just before Meggitt announced its offer, USH had reached a conditional agreement to sell its Dallas-based US subsidiary Optic-Electronic Corporation (OEC), which it bought 12 years ago and which suffered losses in 1985-86. USH insists that the \$65m deal was not a "fire sale" and was not cobbled together to help it survive a bid.

Applying the theory of "get bigger or get out," USH started going for the first option. Trying to reinforce OEC's business in image intensifiers for night-vision systems, it tried last year to take over the number two US company, Varo, also Dallas-based. It was outbid to the US company IMO, to which it is now proposing to sell OEC. It says consolidation is needed in the night-vision industry and that there are particular benefits to be derived from putting OEC and Varo together.

Mr Prest also argues that the US "proxy board" system for foreign-owned defence companies - which has come under the spotlight with Ferranti's belated discovery of a "black hole" at the US company it took over - is, for an operation that provides 30 per cent of group sales, undesirable in the long term.

USH's intention is to expand its European and Singapore electro-optics businesses instead. It is understood to have been in discussion with a

Jaguar and GM may launch new car

By Kevin Done, Motor Industry Correspondent

**J**AGUAR and General Motors are considering the joint development and production of a range of executive cars pitched below the present Jaguar XJ6 luxury saloon range.

The new car is a key element in the current negotiations between the two companies and would lead to a significant extension of the current Jaguar range.

As part of the negotiations GM, the world's largest car maker, has already announced that it is considering taking a minority equity stake in Jaguar.

Sir John Egan, chairman and chief executive of Jaguar, said last week that one of the major advantages for GM in the proposed deal would be the development of "joint manufacturing ventures".

It is understood that the two companies have not yet decided where such a new executive car would be built nor on the volumes and marketing strategy, but it would draw heavily on GM technology as well as on Jaguar expertise in suspension, styling and interior design.

GM has had little impact with its own top of the range European executive car sold as the Opel Senator/Vauxhall Senator, and it is clearly seeking to use the Jaguar marque to expand in this lucrative sector.

The GM plans are likely to face fierce resistance from Ford, its arch US domestic rival, however, which is now the largest single shareholder in Jaguar with a stake of at least 10.4 per cent.

Ford has already announced that it is seeking to become a "major shareholder" in Jaguar and has persisted in increasing its stake despite a hostile response from Jaguar management.

Privately, Jaguar officials accept that the contest between GM and Ford is likely to lead to an all-out bidding match between the two companies, and Jaguar believes that Ford could seek to undermine the planned deal with GM by launching an attractively-priced pre-emptive bid for the UK luxury car maker conditional on the removal or expiry of the Government's so-called golden share.

The golden share expires at the end of 1990 and gives the Government a right of veto over any changes to the Jaguar articles of association which presently limit single shareholders to a maximum of 15 per cent.

Midland & Scottish Res concentrates on Emerald

**I**N ITS half yearly report, up to June 30, USM-quoted Midland & Scottish Resources said activity was centred on development of the Emerald oilfield in the North Sea, for which it is prime contractor.

Production of the field was expected to start next August. Costs, including interest on project loans, were being capitalised and amortised over the life of the field on a unit of production basis.

In the half year the company cut its loss to £2.1m (£5.3m). The deficit mainly resulted from administrative expenses not directly associated with Emerald development, and finance costs connected with the convertible loan stock and standby underwriting agreement which have been redeemed and cancelled respectively following the recent rights issue.

Midland and Scottish was now structured to maximise the benefits to shareholders from the Emerald field, the directors said.

With the recent significant improvement in the offshore oil and services market, the company was set to take advantage of other major oil-field development projects.

Euro Disneyland allocations

By Ray Bashford

**A** HEAVY oversubscription for the 10.7m shares offered in Euro Disneyland has forced a ballot to decide allocations which favour small shareholders.

SG Warburg Securities, lead-manager for the non-French portion of the \$600m European issue, said 171,000 British investors applied for the shares and that the £67m UK offer for sale was 4.7 times subscribed.

The international offer, comprising 42.94m shares offered throughout the European Community excluding France,

was 11 times subscribed. The ballot covers applications for up to 1,500 shares under a scheme which is weighted in favour of those investors who made the smallest applications.

Those who applied for between 100-300 shares will have a 50 per cent chance of receiving 100 shares, while applications for between 500-750 shares will have a 45 per cent chance of receiving 200 shares and those seeking between 1,000-1,500 shares will have a 45 per cent chance of receiving 300

shares.

Other allocation levels are: applications for 2,000-2,500 will receive 300 shares, 3,000-3,500 will receive 400 shares, 4,000 to 4,500 will receive 500 shares and 5,000-15,000 will receive 10 per cent of the number applied for.

Those potential investors who applied for 20,000 shares or more will receive no allocation.

It is expected that the shares will be listed on the Paris, London and Brussels stock exchanges on November 6.

COMPANY NEWS IN BRIEF

**AMERCOEUE ENERGY:** In the first half of 1989 turnover came to £133,000 (£87,000) and loss before tax £236,000 (£342,000). Directors have taken all steps to curtail further operating losses and reduce dependence on fluctuating coal prices. Loss per share was 2.49p (1.94p).

**GREYCOAT** has issued a £26m three-year deep discount note at a coupon of 1.923 per cent. Net proceeds of some £18.4m are being used to finance the acquisition of Roman House in Wood Street, EC.

**HILLSDOWN HOLDINGS** is seeking shareholder approval to the purchase of its own shares. It will cover the buy-in of up to 10 per cent of the capital at a price not exceeding 5 per cent over the average middle market price in the prior 10 business days.

**RELIANT GROUP** subsidiary Wisepak has agreed to sell its development site in Edenbridge, Kent, for £8.38m cash.

UK BUILDING & CONSTRUCTION

The Financial Times proposes to publish a Survey on the above on 20th November 1989

For a full editorial synopsis and advertisement details, please contact:

**Alison Barnard**  
on 01-873 4148  
or write to her at:  
Number One, Southwark Bridge  
London SE1 9HL.

ACCOUNTANCY

The Financial Times proposes to publish this survey on: 28TH NOVEMBER 1989

For a full editorial synopsis and advertisement details, please contact:

**WENDY ALEXANDER**  
on 01-873 3524

or write to her at:  
Number One  
Southwark Bridge  
London  
SE1 9HL

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Directors are usually held for the purpose of considering dividends. Official indications are not available as to whether the dividends are interim or final and the subdivisions shown below are based mainly on last year's final accounts.

**TODAY**

Interline-Amer Group, EMIS, Dorland International, British & American Film Holdings, Centenary Trust, Diamond Group, Heston, Son Property, Finance-Allied London Properties, Lucas, Mollath, P&O Petroleum, Praxair, Shaw-Walsh.	
<b>TUESDAY</b>	
Anglo American Coal	Oct. 23
Atlantic Resources	Oct. 23
British Petroleum	Oct. 23
Dalrymple	Oct. 27
ERA	Oct. 27
SG Warburg	Oct. 27
ICI International	Nov. 7
Green TV	Oct. 23
Grifone	Oct. 23
Pharmia	Oct. 23
Imperial Cold Storage	Nov. 6
Harold Wilson	Oct. 23
Tiger Oils	Nov. 7

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BUILDING MATERIALS AND AGGREGATES

The Financial Times proposes to publish this survey on: 5th December 1989

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**FINANCIAL TIMES**  
LONDON'S BUSINESS NEWSPAPER

**Bank of China**  
U.S.\$200,000,000  
Floating Rate Notes 1992

In accordance with the provisions of the Notes, notice is hereby given that, for the six month period 23rd October, 1989 to 23rd April, 1990, the Notes will bear interest at the rate of 8 1/4 per cent per annum. Coupon No. 5 will therefore be payable on 23rd April, 1990, at US\$10,901.04 per coupon from Notes of US\$250,000 nominal and US\$436.04 per coupon from Notes of US\$10,000 nominal.

S.G. Warburg & Co. Ltd.  
Agent Bank

**U.S. \$250,000,000 Security Pacific Corporation**  
Floating Rate Subordinated Capital Notes due 1997

Notwithstanding as advised that for the interest period from August 21, 1989 to November 21, 1989, the sum of U.S. \$226.79 will be payable on the interest payment date, November 21, 1989, per U.S. \$10,000 principal amount of Notes.

By: The Chase Manhattan Bank, N.A.  
London, Agent Bank  
October 23, 1989

**Nationwide Anglia Building Society**  
£80,000,000

**Nationwide Anglia Building Society**  
(Incorporated in England under the Building Societies Act 1986)

**Subordinated Floating Rate Notes due July 1998**

For the three months 17th October, 1989 to 17th January, 1990 the Notes will carry an interest rate of 15.71875% per annum with a coupon amount of GBP 396.20 per GBP 10,000 Note, payable on 17th January, 1990.

Listed on the Luxembourg Stock Exchange.

Bankers Trust Company, London Agent Bank

**Correction Notice**  
Banco Central de Costa Rica  
U.S. Dollars Floating Rate Notes due 1988-1992

For the period 17th October, 1989 to 17th April, 1990 the Notes will carry an interest rate of 17.1875% per annum with a coupon amount of U.S. \$34.73 per U.S. \$1,000 Note payable on 17th April, 1990.

Bankers Trust Company, London Agent Bank

**RED NACIONAL DE LOS FERROCARRILES ESPAÑOLES**  
ECU 100,000,000  
Guaranteed Floating Rate Notes due 2006

Unconditionally guaranteed by The Kingdom of Spain

Holders of Notes of the above issue are hereby notified that for the interest period from 26th October, 1989 to 26th January, 1990 the following will apply:

- Rate of interest: 10 1/2% per annum.
- Interest amount payable on Interest Payment Date ECU 296.33 per ECU 10,000 nominal or ECU 2,963.33 per ECU 100,000 nominal.

Interest Payment Date: 26th January, 1990

Agent Bank:  
Bank of America International Limited

**Christiania Bank og Kreditkasse**  
(Incorporated in the Kingdom of Norway with limited liability)  
U.S.\$100,000,000

Floating Rate Subordinated Notes Due October 1997

Notice is hereby given that the Rate of Interest has been fixed at 8.5125% and that the interest payable on the relevant Interest Payment Date April 23, 1990 against Coupon No. 2 in respect of US\$10,000 nominal of the Notes will be US\$445.22 and in respect of US\$250,000 nominal of the Notes will be US\$1,138.02.

October 23, 1989 London  
By: Citibank, N.A. (CSI Dept), Agent Bank **CITIBANK**

**Gerrard & National HOLDINGS PLC**  
INTERIM STATEMENT

There were two increases in United Kingdom clearing bank base rates in the first six months of our year. Rates rose from 13% to 14% on 24th May and there was a further rise of one percent on 5th October, the last day of our half year. Despite these rises group profits are higher than for the comparable period last year.

During the last week turbulence in stockmarkets round the world has caused considerable volatility in interest rates. However, with sterling remaining vulnerable on the foreign exchanges, we are not expecting an imminent reduction in official short term interest rates.

The Directors have decided to pay an interim dividend in respect of the half year to 5th October, 1989 of 3p per share (1988: 3p per share) which will be paid on 11th November, 1989. The dividend will be paid on 6th December, 1989 to members on the register at the close of business on 10th November, 1989. Transfer books will be closed for the day on 13th November, 1989. This year the interim statement is being sent directly to shareholders.

R.B. Williamson  
19th October, 1989

**FINANCIAL TIMES**  
LONDON'S BUSINESS NEWSPAPER

**WORLD PULP AND PAPER**

The Financial Times proposes to publish this survey on: 12 DECEMBER 1989

For a full editorial synopsis and advertisement details, please contact:

**ALISON BARNARD**  
on 01-873 4148

or write to her at:  
Number One  
Southwark Bridge  
London  
SE1 9HL

**FINANCIAL TIMES**  
LONDON'S BUSINESS NEWSPAPER

**U.S.\$200,000,000 ML TRUST VI**

**Collateralized Mortgage Obligations Floater Class A Bonds**

In accordance with the provisions of the Bonds notice is hereby given that the Rate of Interest has been fixed at 9.1875% for the twelfth Floater Interest Period of 20th October, 1989 through 19th January, 1990. Interest accrued for this Floater Interest Period is expected to amount to U.S.\$10.59 per U.S.\$1,000 Bond.

**PRINCIPAL PAYING AGENT**  
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80 Broad Street  
New York 10004  
Merrill Lynch International Bank Limited  
Agent Bank

**PAYING AND TRANSFER AGENT**  
Citicorp  
Investment Bank  
(Luxembourg) S.A.  
16 Avenue  
Marie-Thérèse  
L-2012 Luxembourg

**Banca Nazionale dell'Agricoltura S.p.A.**  
(Incorporated with limited liability in the Republic of Italy)  
London Branch

**US\$ 150,000,000**  
Floating Rate Depository Receipts due 1999

Issued by Bankers Trust Company Limited evidencing entitlement to payment of principal and interest on deposits with Banca Nazionale dell'Agricoltura S.p.A.

Notice is hereby given that the Rate of Interest has been fixed at 8-625% for the interest period 23rd October, 1989 to 23rd April, 1990.

The interest amount payable on 23rd April, 1990 will be US\$4,360.42 in respect of each receipt.

Camelia Ingheluz  
Bank of Commerce  
Agent Bank  
19th October, 1989

**U.S. \$400,000,000 & National Westminster Finance B.V.**  
(Incorporated in The Netherlands with limited liability)

**Guaranteed Floating Rate Capital Notes 2005**

In accordance with the provisions of the Notes, notice is hereby given that for the six months interest period from October 23, 1989 to April 23, 1990 the Notes will carry an interest rate of 8 1/4 per annum. The interest payable on the relevant interest payment date, April 23, 1990 against Coupon No. 10 will be U.S. \$436.04.

By: The Chase Manhattan Bank, N.A.  
London, Agent Bank  
October 23, 1989

**IG INDEX**  
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Tel: 01-828 7233 AFBD member

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Dec. 21/80/2190 -25	Dec. 26/83/2895 -7

5pm Prices. Change from previous 9pm close

# FINANCIAL TIMES SURVEY

**Technology is so transforming the industry that it is hard to say where digitally generated image manipulation ends and printing begins. Raymond Snoddy says in the run-up to Europe's single market, concentration and internationalisation are the trends**

## In the grip of rapid change

THE PRINTING industry, in all its manifestations - Britain's fifth largest manufacturing industry - larger even in output and employment than the car industry, is in a state of turmoil.

A traditional industry is in the grip of rapid technological change and dramatic restructuring. Some think the changes to come in the next decade will be more fundamental than in the 500 years since Caxton.

Developments including still video and the sort of digital image manipulation made possible by companies such as Quantel start to call into question the traditional boundaries between media.

Computerisation has already cut out whole processes in the preparation of words or images for printing. The electronic integration of words and graphics, already possible, should become a practical commonplace within three to five years.

Newspapers have over the past three years seen a much delayed technological revolution, with journalists in effect setting their own copy by direct inputting of stories into electronic newsroom systems.

The latest industry estimates suggest that within three to five years the words and pages

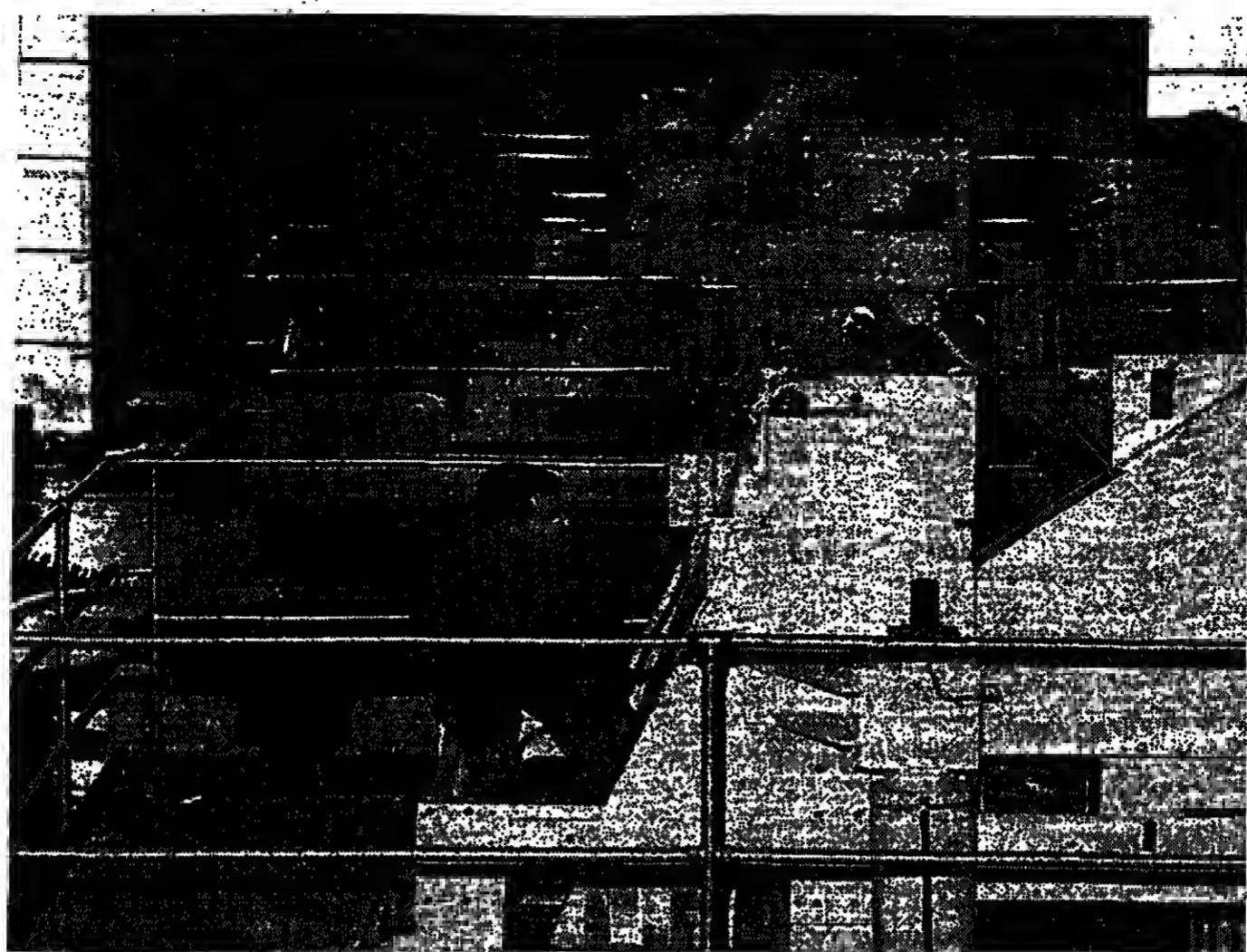
will go direct to the printing plate in a stream of digital impulses, thereby cutting out yet another stage in the production process.

Mr Brian Blunden, chief executive of PIRA, the research association for the paper and board, printing and packaging industries, believes that technological change is having the effect of "moving all the action towards the originator" of words and pictures.

If anything, he believes the rate of change is speeding up. Even the part of the printing business that seems most immune to change, bringing together ink, paper and image on a printing press, is developing rapidly with the growing sophistication of computer control systems, increasing use of robotics in paper handling and the introduction of short-grain web offset presses which make significant savings on paper.

At the same time as technology has been changing the face of printing, there has been at least at the top end of the market a deep restructuring as printing starts to follow publishing in responding to globalisation pressures.

Although the typical printer is a small businessman employing fewer than 10 people and the industry is still a



HunterPrint opened a £31m web offset plant at Corby, Northants, last month

# PRINTING TECHNOLOGY

fragmented one, in the first division new larger groupings are being created through hostile takeover battles for high technology companies in search of larger patrons to take on the costly business of innovation in a time of change.

The latest battle has been over the future of Norton Opax, the specialist printing and packaging group and itself a predator in the past. Norton last month accepted a £382m offer from Bowater Industries, the packaging and industrial products company, after dropping its own 267m bid for De La Rue, the banknote printer.

In turn, De La Rue sold Crossfield Electronics which produces everything from scanners used to input images into computers to electronic page composition equipment, for £222m to a 50-50 joint venture between Du Pont, the US chemicals group, and Fuji Photo Film of Japan.

As Mr John Holloran, chief executive of BPCO, the largest UK commercial printer, says: "It's a good time to be private."

Yet neither private nor public can escape the effects of technical change and the fact that almost any computer company that wants to can enter

the pre-press area with a personal computer and a page make-up software package.

At Atex, the largest supplier of electronic newsroom systems, Mr Alec Hollingworth, vice-president of European operations, concedes the onward march of the PCs but argues the real challenge will be in the management of complex production systems such as large daily newspapers to keep track of every item of copy and remove bottlenecks.

An increased move towards editorialising, both of editorial and advertising, will mean the need for parallel systems, Mr

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tional ability to supply individual pieces of equipment.

Leaders of the industry had a glimpse of the depth of future technical change earlier this year when they visited Japan as members of the International Electronic Publishing Research Centre. Many technological innovations seen on the centre's first visit six years ago were now available as commercial products.

At Canon, the camera manufacturer which earns nearly 90 per cent of revenue from business products such as copiers, the group was shown a colour bubble ink-jet printer to be launched next year. It uses a thermal process to expand and expel ink particles rapidly onto the paper through four heads each with 128 tiny nozzles through apertures as small as three microns in size.

At Dai Nippon Printing, a general printing company whose annual sales exceeded £7bn, the group was shown how high definition television pictures are being used as the basis of an "electronic book," described as a warmer and inherently more attractive medium than a printed book - at least to children.

The electronic book is probably 10 years away as a commercial product but already digital images from HDTV are used to generate conventional images in books - an extreme example of the digitalisation of information is leading towards a real convergence of previously separate media such as television and printing.

Less futuristic is the development of still video cameras for both consumer and professional use. Sony has developed a system that contains up to 25 frames on a single two-inch floppy disk and delivers still images quickly without chemical processing.

Mr Blunden, also chief executive of the International Electronic Publishing Research Centre, says such systems "could be to editorial direct input of picture images what the personal computer has been to direct entry of text."

After his study trip Mr Blunden issued a warning about the extent of the country's commitment to information technology expected to account for one third of Japan's capital expenditure by the year 2000.

The PIRA chief executive fears that few in the British industry really understand the impact of technology in creating multi-media industries in the way that he believes Mr Maxwell and Mr Rupert Murdoch, chief executive of News Corporation, do. "As we move towards 1992 and a single European market I think the UK needs another half dozen Maxwells and Murdochs," he says.

That may be a tall order but Mr Colin Stanley, director general of the British Printing Industries Federation, argues that the industry is a largely unmissed success story.

Printing had revenues of more than £7bn last year, employed more than 200,000 people and was the eighth largest manufacturing industry. On the broader definition used by PIRA, which includes publishing, the sector is the fifth largest, with revenues of £13bn in 1987, the last year for which official statistics are available.

More significantly, according to Mr Stanley, last year British printing had a trade surplus of £88m after a £200m surplus in 1987, productivity increased by 35 per cent between 1985 and 1988 and the UK also had Europe's highest level of presses less than two years old.

An example of the scale of modernisation in the British industry came earlier last month with the opening by HunterPrint, which claims to be Britain's largest jobbing printer, of a £31m web offset plant at Corby.

Apart from technological uncertainty, the main difficulties the industry now faces are high interest rates and a feared slowing down in the growth rate of advertising revenue.

In the UK Printing Industry Statistics 1989\*, published earlier this month, Mr Tim Rothwell, of Barclays de Zoete Wedd, says that, despite such difficulties, industry opportunities still look encouraging.

There are still prospects, Mr Rothwell believes, for print to increase its share of per capita advertising expenditure in both the UK and the rest of Europe; corporate activity in the sector is likely to remain high and the communications market in general will show above-average growth.

But he warns that the overall health of the sector will depend on the larger public and private companies together with possible alliances of smaller companies.

"These companies will need to become more active and aggressive in a European context in order to survive the challenges of the next decade," Mr Rothwell says.

\*From PIRA, Sandalls Road, Leatherhead, Surrey, KT 22 7BU. £25 to PIRA members, non-members £35.

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PRINTING TECHNOLOGY 2

DESK-TOP PUBLISHING

Growth forecast scaled down

HAS desk-top publishing lived up to expectations? Just a few years ago it was billed as both a solution for most companies' printing needs and as a lucrative market sector for those companies selling the hardware and software.

Now both users of desk-top publishing (DTP) systems and analysts, with a keen eye on company profits, are taking a more sceptical view.

From the commercial viewpoint, analysts admit that the market is maturing. "It's by no means a dead market, there is still growth to be had," says Mr. Bob Faulkner of Alex Brown, the New York investment bank. "But the easy sales have now been made."

US market research organisation Dataquest has also modified its predictions for the North American market. Last year it forecast that personal computer-based DTP systems would grow by 42 per cent every year until 1993. It has now reduced that to just 28 per cent a year for the next five years.

So what has caused the cold feet? From the consumers' point of view, it is now clear that DTP is not a panacea for all ills. In particular, many would-be converts have discovered that DTP systems can be quite difficult to use. "You can't just sit down and bang out these beautiful documents," says Mr. Faulkner. "It needs time and training."

As a result, the biggest growth area in the UK has been in professional applications of newspaper and magazine publishing and graphic design. In the US newsletters top the list, followed by memos and internal documents, technical documentation, internal company reports and sales literature, according to a recent Dataquest survey. The combination of cus-

tomers resistance and a need to increase sales means that DTP companies are now focusing their products more precisely. When it was first launched about five years ago, DTP wavered half-way between professional publishing and word processing - a way for companies to prepare their own documents on a personal computer (PC) and print them out on a laser printer.

Now DTP is moving both downmarket, in terms of price and ease of use, and upmarket in terms of its capabilities.

For the lower end of the market most of the major companies are working on software which is easier to use. "A typical person who wants to add basic graphics to a business document doesn't need all the facilities of a graphic designer," says Mr. Faulkner. At the upper end of the market a growing number of magazine publishers are using in-house printing systems rather than sending their journals to outside printers. Companies such as Crossfield Electronics, a venture between Du Pont and Full, Sedco of France, and Hell of West Germany are all selling systems which combine the ability to manipulate sophisticated graphics on an Apple Macintosh PC with professional printing machines and high definition colour scanners for inserting colour photographs.

Although Dataquest has slashed its predictions for market growth in PC-based DTP, it has upgraded its forecast for the high-powered systems, and now expects sales of those will grow by 18 per cent a year.

Further confusion in the PC-based DTP market has been fuelled by the unexpected decision of Apple Computer to swap allegiance on DTP standards. Apple has forged an

alliance with Microsoft, the leading US software developer, to devise a new format for the way text is displayed and printed.

To do that, Apple has dissolved its former alliance with Adobe Systems of California, which developed display software called Postscript - a standard already endorsed by Digital Equipment, NEC, Wang and Fujitsu. Mr. Jerry Bynas, managing director of Adobe Systems Europe, in Amsterdam, argues that Postscript is already a de facto standard, with over 900,000 Postscript devices in use, and

low. Until recently, two of the basic drawbacks of PC-based DTP systems were that they could only print in black and white, or in crude spot colour, and the range of half-tones, or greys, that they could produce were limited.

The speed with which colour printing will become widespread will depend on developments in colour printers - both laser and ink-jet models.

Ink-jet printers which, as their name suggests, shoot jets of four different coloured inks at the paper, are cheaper than laser printers but slower. The latest versions, for example, can print a page in about five seconds.

Most ink-jet printers now use ordinary paper - not the coated top still used by facsimile machines. And further developments are afoot to develop printers with up to 2,400 nozzles, the current ones typically have 60. That would mean the print bar could span an A4 page, which would reduce the number of moving parts and so increase reliability.

Because of these rapid developments, the Technology Partnership, the UK technical consultancy, believes that sales of ink jet printers will grow rapidly. By 1991, it predicts, the US market alone will be worth \$1bn.

Another emerging business application of DTP goes away with the printer altogether. Instead, the text and graphics produced on the computer screen are translated into material for slides or videotape. In the near future they could also be fed onto compact disc or videodiscs instead of onto paper.

Della Bradshaw

LIFE HAS changed - very noticeably - for Mr John Holloran, chief executive of BPCG, Britain's largest commercial printer.

When he was chief executive of Mr Robert Maxwell's BPCG, the carpet was thick and the support systems just what you would expect in the headquarters of a major international publishing company. In an emergency, he could always hitch a ride on the Maxwell helicopter or the Maxwell executive jet.

The carpet is much thinner these days and John Holloran can be found up three flights of stairs - there's no lift - in modest premises on London's Waterloo Road.

The difference is the £265m management buyout that Mr Holloran successfully concluded with Mr Maxwell less than a year ago.

"In a buyout, you're sharing the dream that you're building a business to go public and it doesn't matter if the office is not very smart. I am prepared to go without any corporate comforts to drive this business on and I expect my management to do exactly the same," Mr Holloran says.

The man who tried and failed to buy his old employers McCorquodale before it went to Norton Opax is now firmly in the driving seat and believes it is a great time to be a private printing company.

Outside his door, the takeover battles rage as a process of polarisation seen already in the publishing industry starts to drive printing as well: the major printers get bigger and the medium-sized either get squeezed or taken over.

"We generate £50m a year cash, of which £25m is depreciation. Our past investment is throwing off enough cash almost to service our debt. So

"I would like to go public and build a truly global business"

as long as we don't put the company into some horrendous nose-dive through bad management, which we won't, or alternatively the industry gets so bad, which I don't believe it will, then we are in a very strong position," Mr Holloran says.

The commitment to venture capital companies Electra and Candover is that within three to five years Mr Holloran will sell the company or take it public so that the investors can get their money out.



John Holloran: thin carpet and a tight rein on costs

Raymond Snoddy talks to John Holloran, BPCG chief executive

Top private on parade

Releveraging BPCG, taking the original investors out and selling the business back again to its management is one clear option.

"At the moment I would like to go public and build a truly global printing business," says Mr Holloran in an echo of the publishing ambitions of his old boss, Mr Maxwell, who still holds a 19.9 per cent stake in BPCG, a stake that is convertible into 24.7 per cent on flotation.

The new private BPCG has been kept largely intact. One small credit card company has been sold and a general binding company at Harlow in Essex has been closed. The total number of employees, at 6,500, is 300-400 down on pre-buyout days but the reduction includes the removal of a layer of management, some of whom were offered and accepted pay cuts to stay on

with BPCG. "Robert Maxwell restructured, he worked hard at it and he left a good business. What we've got to do really is to sharpen it up everywhere and try to put the craft back into the business," says Mr Holloran.

This has included tightening up on all costs while at the same time giving more than 70 top managers the chance of a slice of the business through five-year share option schemes.

To say that John Holloran keeps a tight rein on costs amounts almost to an understatement. Every Tuesday there is a detailed examination of the state of the 45 separate units in the company. Any units absorbing as opposed to generating cash have to come to Mr Holloran as banker once a week.

"Of our 45 factories nearly 40 are cash positive," says Mr

Holloran who is also, in the vein of Robert Maxwell, chief buyer for the company, personally clearing every purchase over £10,000.

"No company of this size is getting the kind of attention BPCG is," says Mr Holloran, who normally works 12-hour days, entertains customers two or three times a week but adds that at this level of business he is in effect looking after the shop all the time.

The share option scheme is not designed to create what Mr Holloran described as "a private thicket" with 75 printing millionaires after flotation but to provide enough incentive "to make that extra effort worthwhile."

The new BPCG, which prints around 600 titles including Radio Times and Readers Digest, says it has lost no major contracts since going private and has won the recently launched Me magazine and a significant slice of the cheque printing business of Barclays Bank.

The company has spent £30m this year and last on new equipment including new "short grain" presses from M.A. Roland, presses that not only go faster than previous presses but save up to 15 per cent on paper.

The new generation of web offset presses coming onto the market is just one facet of new technology now changing the printing industry.

Within the three-to-five year timescale in which BPCG will either float or be sold, Mr Holloran expects to be electronically laying out pages and calling up graphics and pictures in digital form.

But the greatest change of all, he believes, is that printing is now seen by British management as a respectable business to come in to after the dark days of the 1970s when the

Deals for six-day working "will have to be negotiated"

industry nearly died. If it is to remain competitive internationally, Mr Holloran argues, then the British printing industry will have to negotiate deals allowing six-day working.

"In 1982 we can go and take a slice of the European market in a big way or we can stay where we are, roll over and have them come over again," says Mr Holloran who foresees more marriages between British and continental European printing groups.

# I

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COMPUTERISED METHODS of print origination are gradually combining the activities of typesetting and image reproduction into a single function known as pre-press, but this remains distinct from printing, other than proofing in single copies or very short runs. Any consideration of the effect of new technology on the printing industry must therefore deal separately with pre-press and printing activities.

The expression "desktop publishing," invented by Paul Brainerd, a designer and entrepreneur, to describe the PageMaker system four years ago, is misleading. The Aldus innovation, quickly followed by rivals such as Quark and Ventura, was to use the personal or micro-computer for page make-up on the computer screen, with immediate output of a reproducible original on a cable-top laser printing device. This is a method of pre-press origination and as far from "publishing" as a microwave oven is from being a desktop restaurant.

The combination of text and graphics on screen, with whole page output by means of raster image processing, is the consistent treatment of all page elements as digital dot images, applies equally to professional typesetting methods. The main difference is that professional front end systems are faster and more accurate because they use codes rather than the built-in menus of the DTP screen. The subsequent use of a typesetting machine, or "imagesetter" as it is now known, provides far superior quality owing to the finer raster image resolution of more than 2,000 dots an inch, compared with 300 on most laser printers; not to mention vastly superior typeface resources.

The whole movement of text and graphics make-up on screen, whether DTP or otherwise, has had the profound effect of separating the front-end or input activity from the image-setting or output. This may be seen as a first step in the distribution of pre-press activities from the trade to the customer, leaving the professional to put the finishing touches to the original, which he will receive either by telephone modem or on some form of data carrier such as a floppy disc, and output the content onto film or bromide paper for platemaking.

So far, this has led to the widespread establishment of typesetting bureaux, whose main activity is the processing of customers' discs, rather than keyboarding. Linotype's latest published list of such bureaux using Linotronic imagesetters has more than 200 addresses in the UK.

Apart from inherent defects of speed and precision, DTP has suffered from lack of training of its operators, a fault that lies with users rather than the suppliers. The best use of DTP is probably that made by instant print shop chains such as Kall-Kwik and Protaprint,



Tally Barruel, a franchisee of Kall-Kwik: "electronic design"

Typesetting combines with image reproduction

Technology has its uses

which have widely adopted the new technology to replace their previous typesetting and manual cut-and-paste methods, and have the resources to ensure that their franchisees receive the appropriate training. Kall-Kwik, using Aldus PageMaker in about 120 of its UK shops, promotes the method as "electronic design," not DTP.

Some other instant print shops have branched out into mainstream printing, while retaining the speed of service that justifies the "instant" tag. London-based Immediaprint, founded 20 years ago, now has six High Street shops using plain-paper copiers, backed up by five small offset production units and a full-scale sheet and web-offset printing factory in the City. The firm has its own typesetting subsidiary and has made a specialty of lengthy company publications such as manuals, in relatively short runs, together with a 24-hour service for printed seminar papers.

This kind of work, as well as business stationery, is in many cases handled by large in-plant printing departments such as those of Shell, National Westminster Bank or British Tele-

com. These, incidentally, were among the first to increase their printing efficiency and economy by the use of management information systems, which are only slowly gaining ground within the mainstream printing industry.

At the front end of many instant printing operations, corporate publishing systems are used. These differ from DTP by being multi-user, multi-tasking operations, with networking and powerful storage, sometimes associated with "demand printing" on digitally controlled xerographic machines. With major users in the aerospace and computer software industries, corporate publishing systems are already associated with "publishing" on the user's computer screen as well as in print.

Magazine publishers are now increasingly using DTP-based front end systems for monochrome page composition, as are book publishers, at least in the United States, where Viking Penguin has recently initiated a two-year plan to bring all pre-press origination in-house with a system supplied by Bestinfo. Colour origination and printing: The US is also taking

the lead in the introduction of "desktop" or in-house "colour" origination. This is still in its infancy and requires more accuracy than most DTP systems currently provide, since the four-colour process requires precise control of half-tone screen angles and multiplies any error by four.

So far, the only important distribution of colour pre-press activities outside the repro trade has been in the use of digital "design" production systems in graphic studios; to produce a magnetic tape which is then used by the professional colour printer to produce a page. Image setting is important to digital design production systems from mere design systems, which do not connect with any form of production other than a crude thermal colour print or a slide for use in business presentations.

Colour printing is now almost universal except for pure information printing and books of text only. The move into colour has been made possible both by pre-press innovations and by the development of two-colour and four-colour printing presses of good quality right down to the A8 sheet size (two magazine pages to view) and even single-page A4. Suitable for implant work, as well as the smallest mainstream printing company, such machines have made colour easy, and it is perhaps significant that a high proportion of them are of Japanese manufacture.

While the instant printer makes full use of plain-paper copiers for monochrome work, so long as quality requirements are modest and the run barely exceeds 100 to 200, colour copying has simply not begun to exist as a printing method. The latest colour copiers are, in fact, promoted as means of photographic enlargement and graphic manipulation facilities, mainly for displays.

New technology has benefited the small printer, enabling them to provide better and faster services. Instant printing retains the advantages of clear control, instant correction, and confidentiality but a firm must be large indeed to incorporate full-scale corporate publishing departments run on an economic basis.

Far from threatening the industry, it has increased awareness

Much of the print produced by in-house DTP and corporate publishing systems would not have been produced as print with typographic design and graphic illustrations, before the new techniques became available. Far from threatening the printing industry, the information society has increased typographic awareness and the expectation of our graphics, enabling the smaller printing company, suitably equipped with modern presses, to flourish more than ever.

Andrew Blundell  
Editor, Graphic Design

*Johnnie 1230*

PRINTING TECHNOLOGY 3

Terry Byland looks at the outlook for newspapers and magazines

PUBLISHING

Rapid change colours future

THE REVOLUTION in newspaper and magazine publishing has proved, like all the best revolutions, to be an ongoing rather than a final process. The mighty upheaval in the newspaper industry prompted by the move of the News International titles to Wapping in the East London Docklands, opened the way for an acceleration in daily publishing which now looks likely to continue into the next century without much pause for consolidation.



The Daily Telegraph's new building in the Docklands development, London

The first step beyond the relatively straightforward application of new technology to old newspapers has been the move to a rapid expansion of colour printing by the UK daily papers; now, pagination, or the direct on-screen preparation of newspaper pages has become the next hot priority.

These high-pressured changes in the UK printing industry have had the predictable effects associated with similar revolutions in industrial techniques. The sale this summer of Crosfield Electronics by De La Rue, the specialist and banknote printer, displayed all the symptoms of a volatile high technology business. Crosfield, one of the UK leaders in electronic colour page composition systems, has a £3.5m contract for colour printing equipment with News International, whose titles in this country range from The Times and Sunday Times to the Sun and Today.

Mr Jim Salmon, managing director of Crosfield, expects the Sun to be the first UK daily to appear in full colour, with the rest of the popular newspapers not far behind. The process of re-equipping UK daily newspapers for colour printing still lags some way behind the US industry.

The drive towards colour publication among UK newspapers, both dailies and weeklies, has been fuelled by the two most significant features of newspaper publishing development in the late 1980s. The first and most obvious has been the proliferation of new titles. After decades when new entrants to the newspaper business were virtually excluded by heavy start-up charges and then by near-crippling nightly printing costs, the industry is alive to plans for new newspapers, dailies and Sundays. Nor has the conspicuous failure of several ven-

tures proved any discouragement.

The most recent outburst of activity has come on the Sunday front, where the Sunday Correspondent has already hit the streets while the Independent on Sunday is due early next year.

The Sunday Correspondent, with two sections and a magazine, displays clearly the second phenomenon among recent trends in newspaper publishing. After a lengthy and sometimes uncertain start, the principle of incorporating extra sections in both daily and weekly newspapers now

The newspaper world may need lessons from magazines

appears to have established itself.

This proliferation of separate sections inserted or added to the basic newspaper has quickly found favour with both readers and advertisers. The newspaper magazine sections require the application of both colour printing and colour pagination techniques. That implies a significant upgrading of forecasts for the new electronic printing techniques and equipment needed for colour work and for pagination.

The newspaper world may need to take lessons from the magazine industry in recognising that the time span available for the introduction of new techniques is often consid-

erably shorter than management might like. Magazines have sometimes been able to move more quickly than daily and weekly newspapers.

Magazine publishers have by tradition farmed out a large proportion of their printing problems. Once they saw the advantages to be obtained from new printing techniques, they were able to reshuffle their in-house editorial systems, and then switch their printing contracts to whichever contract printer was quickest off the mark.

They made swift use of the expansion of data transmission systems to produce up-to-the-minute tables of statistical data. The big, well-established US business magazines took the lead in this field.

For similar reasons, the magazine publishers have been quick to seize the opportunities for colour printing. This has been applied not merely in the use of colour photography, which already had a high profile in the magazine world. Colour printing has appeared more directly in the use of colour-coded charts, again in the business magazines, and in the wider use of coloured graphics.

However, magazine publishers now see the opportunity to achieve by means of the latest electronic techniques what has always been the industry's ultimate objective: instant, regular and reliable printing of a magazine that sells throughout the world, or at least throughout a market sharing a single language.

This implies continued pressure for high quality transmis-

sion of data, colour images and editorial, with desk-top electronic terminals taking on more and more of the roles required in more book publishing and similar operations where the account is on static and less fluid publication flows.

The magazine industry has already reaped much of the benefit that new technology has brought to the pre-press area. To achieve successful, instant, global publication, the magazine publisher needs to tighten up the "closing time" of the publication, the tying together of pictures and text under merciless deadlines when there is no longer any time to spare for catching up on errors or late deliveries. The problems involved spill over from purely industry questions, such as the application of more powerful electronic terminals, into such wider areas as the state of telecommunications networks in particular countries.

The time when newspaper and magazine owners could think of technology in terms of decades has long gone. It is already clear that Fleet Street's Great Extension from the centre of London to Docklands is only a first step into a new world.

The pressures on both newspapers and magazines in the UK have become so acute that the pace of change can hardly be exaggerated. With new publications, planned and actual, pressing forward on all sides, it is not surprising that the technology available is evolving almost from month to month.

Wait for the imprint of the copier

TECHNOLOGICAL CHANGE in the book publishing industry has gone hand in hand with changes in readership habits and with wider-ranging shifts in managerial attitudes. A glance at any airport bookshop will illustrate both points; there is, indeed, a new market for books but publishers are satisfying it with marketing techniques learned in the consumer product business. Some of these changes stem directly from the industry's move from the traditional flatbed letterpress operation to offset lithography, while others seem to have provided the motivation for technological change.



A 96-page paperback book press manufactured by Strachan Henshaw Machinery, installed at Cox & Wyman, Reading

The introduction of litho printing has done wonders for profit margins, although the publishing world is in at least two minds over the wider implications. Rows between authors and publishers, once of only parochial importance, have this year found their way onto the pages of the national newspapers. The virtual demise of the Bodley Head, one of the oldest and most respected London publishers, came hard on the heels of the sale of Century Hutchinson to Random House of the US for \$54.5m, a sum which reflected the industry's propulsion into the mega-corporation arena.

All this seems a far cry from the hopes, once widely entertained, that cheaper, desk-top electronics would mean a boom in small publishing enterprises or even do-it-yourself novelist publishers.

Contrary to these predictions, the number of genuinely independent UK publishers is decreasing, and those still in business are finding themselves under heavy pressure. Economies of scale, in terms of production, appear to have benefited the Big Battalions rather than the cottage industry.

One reason has been that litho printing has proved easy to do but not so easy to do well. Litho's great advantage is speed, but the ability to outstrip the old letterpress machines fivefold has opened the door to careless printing. Complaints from readers of typesetting and proof-reading errors, not to mention deeper betrayals of the finer points of print-lettering, appear to be on the increase.

In part, this is because once

the new technology is in place, there is less inclination to accept wage costs for reading and checking the page proofs before pressing the magic button which sets the copy on its route towards the printed book. Printing costs are still a surprisingly small proportion of retail prices for books - around 15 per cent, according to the major publishing houses. The rest goes on distribution and, of course, on high-powered marketing.

The new printing techniques have proved better suited to some forms of publishing than to others. High quality reproduction of colour photographs, to take an obvious example, lends itself easily to this form of production. The processing of "information data," which can be presented in tabular form, is also suited to litho reproduction.

Some critics would claim that litho printing implies inferior reproduction of text, but there is little objective evidence of this. The best letterpress printing was always excellent, as can be the best litho work. The overriding factor is, of course, the cost; there can be no return to the days of fine printing craftsmanship for its own sake.

The way ahead for the book publishers is likely to be traced by commercial pressures as much as by technology. Desk-top publishing will certainly remain an important sector of the business, particularly for the production of short-run academic and technical publications.

line publishing areas, the international fiction blockbusters or the coffee-table specials, because so much of the success in this field depends on heavy promotional and marketing efforts.

However, there are other areas from which the existing publishers could be challenged. Just as the UK publishing industry has seen a ruthless pruning of smaller firms and a simultaneous strengthening of the Big Battalions, so has the international publishing universe seen an increase in cross-border or cross-Atlantic operations.

As television soaps have moved from the US to British television screens, so have the multi-sized blockbuster novels familiar to the new generation of fiction readers. These novels have largely bypassed the conventional entry routes for new fiction.

Further incursions into UK publishing could well involve the application of new printing techniques which have to date barely established themselves. The most feared prospect is the application to book publishing of photographic printing, essentially the application of the same techniques as the office copier to large-scale printing.

Copier, or non-impact printing, is a likely next step for the UK industry and, as matters stand at present, it could only come from abroad. Japanese expertise in photo-copying could well be the area to watch for publishers seeking the next area of development.

But it will be difficult for DTP to expand into the main-

Terry Byland

UK PRINTING BUSINESSES: MORE SMALL FIRMS

Number of employees	1982	1983	1984	1985	1986	1987
1-9	7,582	7,824	13,316	14,476	15,243	15,484
10-19	1,784	2,287	2,147	1,963	1,883	1,831
20-49	1,079	1,035	1,025	1,114	1,157	1,226
50-99	371	344	337	334	384	395
100-199	219	209	213	226	215	232
200-299	84	81	85	100	93	96
300-399	44	50	52	46	48	46
400-499	32	25	21	25	26	30
500-749	30	31	33	32	32	33
750-999	16	17	15	18	16	15
1000-1499	12	13	8	7	7	11
1500-1999	7	5	6	5	4	5
2000+	12	11	11	12	10	7
TOTAL	11,252	11,362	17,299	18,358	19,128	19,409

Source: Business Statistics Office

Kiss the grey,  
to go in off the grey

and leave the grey  
snookered behind the grey.

Silly?

Only as silly,  
in fact, as not being able to print  
a full colour advertisement or editorial  
photograph in a daily newspaper  
when the message demands colour.

And only as silly  
as not having the flexibility to  
select these colour images when  
they are available and to place them  
on the right pages.

In choosing its new printing presses,  
a Goss Headliner Offset T 70,  
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with the benefits of including living  
colour images in their newspaper;  
and of selecting these images as  
part of the editorial creation of this  
prestigious daily newspaper.

After all, as in the game of snooker,  
the colours can make all the difference.

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...where science gets down to business

PRINTING TECHNOLOGY 4

Paul Abrahams looks at the effects of computerisation on the industry

Larger companies get the benefits

COMPUTERS have not only infiltrated most industries, they have also permeated most operations of most industries.

implementation, can put such systems beyond the pockets of many businesses. The benefits of such systems are nevertheless real - in terms of smaller and more flexible runs as well as quicker turnaround times.

performance of paper from different suppliers. This, claims Mr Scragg, puts a formidable weapon into the hands of the printer when he approaches the paper companies.

On the printing market could be similar to that in the pre-press market. Mr Scragg says that the cost of the technology at the moment - the price of a system can range from £10,000 to £100,000 for a single line - could concentrate business in the hands of the larger groups, at least until the entry cost for such systems falls.

Crosfield's profits from £21.1m in 1987 to £5.2m in 1988. That decline helped drive down De La Rue's overall profits by 57 per cent. Scitex had experienced a similar downturn in the early 1980s.

They are becoming increasingly an integral part of the printing process

The commercial development of satellite technology - which should allow the world-wide transmission of high resolution colour graphics at guaranteed reproduction quality - should accelerate the concentration of reprographic business in the hands of groups like Wace.

However, for the suppliers of pre-press page composition technology - which involves the digitising and manipulation of images - growth has not been as constant.

The two market leaders in the field, Scitex of Israel and Crosfield Electronics, formerly owned by De La Rue, the UK security printers and now jointly owned by Dupont of the US and the Japanese company Fuji, have both experienced difficulties in recent years.

The consistently high cost of research and development in high resolution graphics and the cyclical nature of the market helped create the fall in

the market Intelligence Research Company based in California and Belgium estimates that the rate of growth in the US market has slowed from 122 per cent in 1987 to 73 per cent in 1988.

But computers are not only being used as front-end systems. They are also increasingly becoming an integral part of the printing process.

Two groups have identified management information systems linked to presses as being significant growth areas for the future.

Manneemann Information Systems, the UK subsidiary of the West German engineering group, and Crosfield Press Controls, a division of De La Rue, are marketing such systems heavily.

One of the main advantages of such systems is that they can reduce waste. Mr Ray Scragg, product manager for management information systems at Crosfield Press Controls, explains that camera technology has now reached the point at which it is possible to monitor fast moving web accurately.

This accuracy means that the printer can identify waste in real-time as it passes through the print process and then automatically divert the waste - as much as 20 per cent of the reel - into a waste bin.

The system will also identify where the waste occurs, whether through web breaks, make-ready waste, folder waste, mis-register waste or splicing.

In theory, such information can help managers improve the efficiency of their company's operations. Waste can be minimised either by adjusting the plant during the run or afterwards by analysing the

effect of this technology

End of the line: a reel of paper nearing completion at Wiggins Teape's Virginal mill near Brussels

Table with 5 columns: Rank, Company, Turnover (£m), Pre-tax profit (£m), Pre-tax margin (%), Year end. Lists top 25 companies in printing.

PACKAGING

The limitations of laser coding

FEW INDUSTRIES stretch the application of printing technology as challengingly as the packaging industry.

Coding and marking methods vary, depending upon the needs of the user. The type of material to be marked, the plant environment and many other factors will determine ink selection and the marking method to be used for providing the best results.

Laser coding has received widespread acceptance for packaging applications. Products travelling at line speeds in excess of 2,400 a minute can be marked on the fly, without blurred characters.

But there are limitations to laser coding. For example, inked labels are easier to mark than a PVC container. The ability to mark a surface properly depends on the distances between various components within the system.

That mark may be created by several means. Ink-coated materials, such as cartons and labels, are marked as the laser vaporises the surface coating of ink to reveal the paper or chipboard surface underneath.

This etching also causes a frosted appearance on most kinds of glass. Certain materials also react to laser by blistering slightly at the surface.

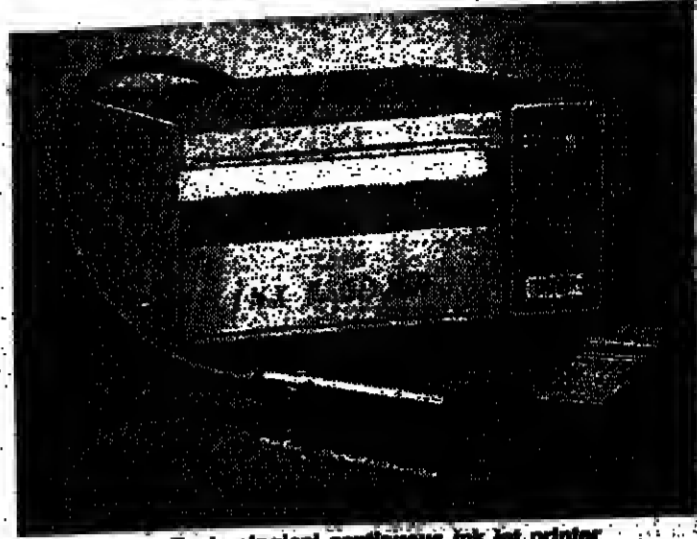
According to Lasertechnics, US-based specialist supplier of laser printing equipment, packaging applications for laser technology tend to be in marking labels or cartons. But other materials suited for laser marking include glass, coated metals and plastics.

Additives such as china clay, titanium oxide and talc can improve the mark quality. Uncoated metals cannot be marked as they reflect, rather than absorb, laser energy.

The most common coding applications are for date and lot code information arranged within one or two lines, but bar codes and prices are also common.

Of increasing interest is the use of laser coding to facilitate generic packaging, for example in cosmetics or automotive parts, where the difference between packages may be minor.

As each system must be designed for a specific application, changes in materials, packaging lines or mark location must be considered in advance.



Linx Printing Technologies' continuous ink jet printer

cross in penetrating the market for mainstream computer printers. It has found a niche advantage over other technologies, including laser. Ink jet equipment is cheaper than laser, and usually takes up less space.

active for the user's needs, according to Kiwi Coders Corporation. Friction driven coders are inexpensive on-line devices which use disposable or reusable ink cartridges.

One important advantage of laser coding is the elimination of ink and its associated problems of hazardous ink waste disposal and maintenance.

Improvements are always being found, none the less. The control print division of Denison Manufacturing, for example, is developing ultraviolet curable inks as an alternative to conventional ink systems for improved adhesion to films, foils and uncoated materials used in the packaging industry.

In pharmaceutical and food manufacturing, the need for permanent, fast-drying inks without the use of volatile solvents has always been recognised. The unique characteristic of this ink is the ability to 'dry' through the ultraviolet curing process.

Most applications are on absorbent surfaces such as corrugated cases or paper bags where the ink dries by absorption. Inks for non-porous surfaces are also available but may require several minutes to dry, depending on the substrate.

Ultraviolet curing provides reduced machine maintenance, higher quality imprints, quicker drying times, lower ink toxicity and easier environmental compliance, as well as improved imprint permanency on a wide range of surface materials.

On-line printing may be more desirable, but may not always be practical or cost-effective for some applications.

Boris Sedacca

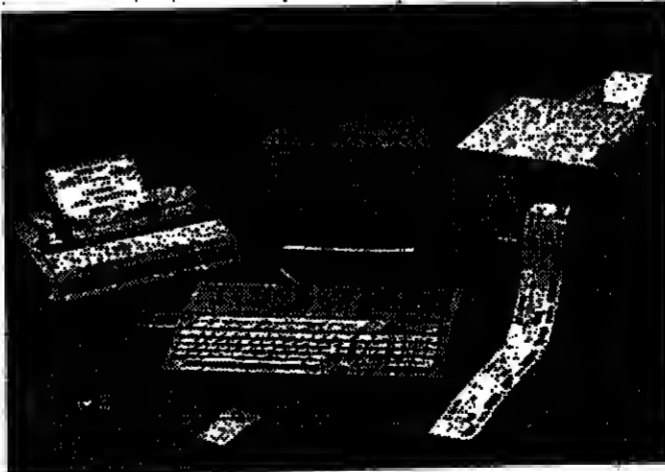
Ultraviolet curing provides reduced machine maintenance, higher quality imprints, quicker drying times, lower ink toxicity and easier environmental compliance

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Quantity Surveyors and Construction Cost Consultants to the Printing Industry Financial Times Bradford & District Newspapers Express & Star Shropshire Newspapers Halifax Courier Chase Web Offset Western Morning News Pipers Coppice Printing Smerdon and Jones 20/22 Clare Street, Bristol Tel: (0272) 285049 also at Plymouth and Southampton

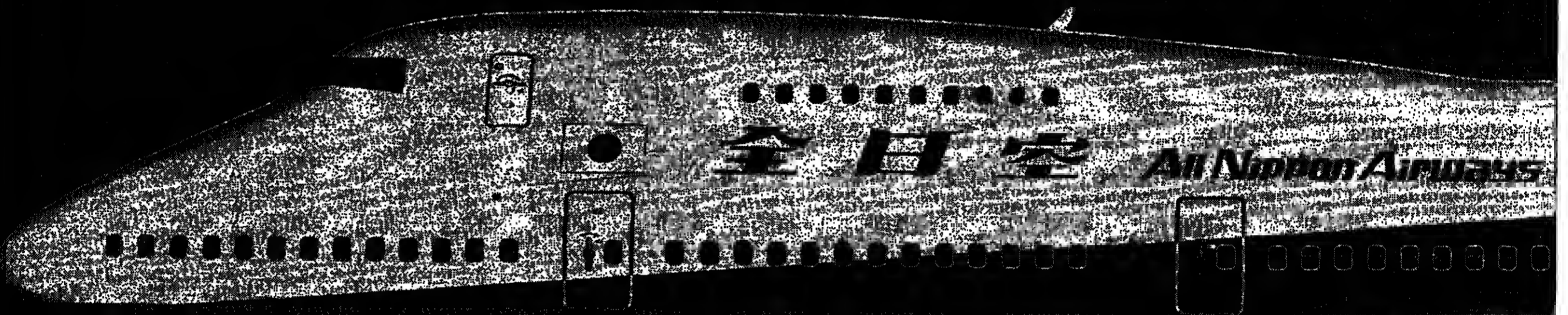
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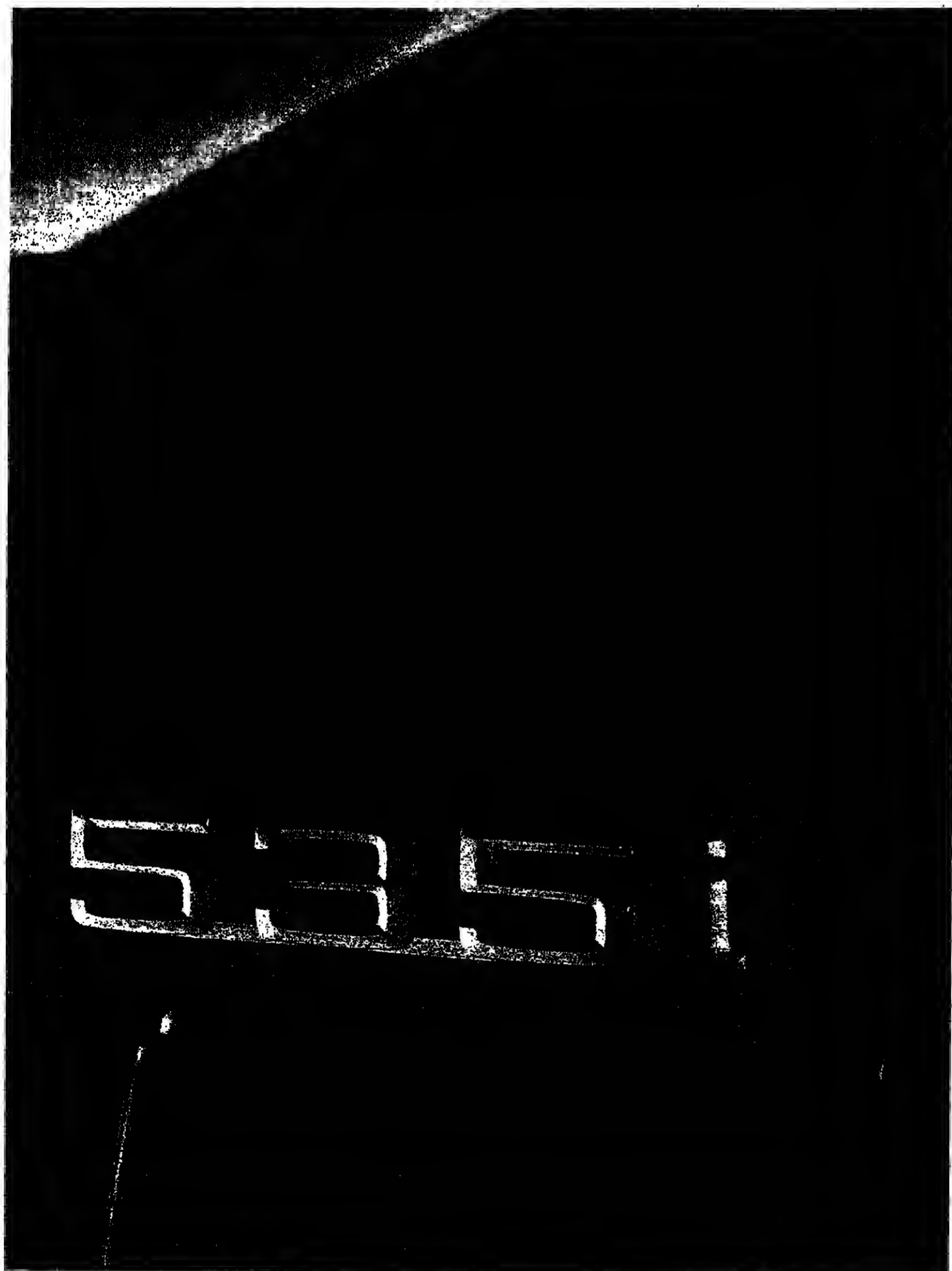
LONDON (LHR) - TOKYO (NRT)			TOKYO (NRT) - LONDON (LHR)		
LONDON (MON.)	NR292 18:55	(TUE.) 15:45 TOKYO	TOKYO (MON.)	NR293 18:45	(MON.) 14:55 MOSCOW (MON.) 16:15 (MON.) 18:55 LONDON
LONDON (WED.)	NR294 18:55	(WED.) 19:55 MOSCOW (WED.) 21:55 (THUR.) 12:50 TOKYO	TOKYO (TUE.)	NR291 11:20	(TUE.) 16:10 LONDON
LONDON (THUR.)	NR292 17:00	(FRI.) 13:50 TOKYO	TOKYO (THUR.)	NR291 11:20	(THUR.) 15:10 LONDON
LONDON (SAT.)	NR292 17:00	(SUN.) 13:50 TOKYO	TOKYO (SAT.)	NR291 11:20	(SAT.) 15:10 LONDON

\* Aircraft Boeing 747-400. \* Times shown are local times. \* All schedules are subject to change without notice.

FOR RESERVATIONS OR MORE INFORMATION, CONTACT: ALL NIPPON AIRWAYS, ANA HOUSE, 6-8 OLD BOND STREET, LONDON W1X 3TA. TELEPHONE: 01-495 7667, OR YOUR TRAVEL AGENT



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DIARY DATES

FINANCIAL

**TODAY**  
**COMPANY MEETINGS-**  
 Murray Income Tst. 7, West Nile Street, Glasgow, 10.30  
**BOARD MEETINGS-**  
 Allied London Properties Lucas Inds. McKechnie Pict Petroleum. Prestwick Shirewicks Interim. Amer Grp. BMS. Borland Intl. British & American Film Hldgs. Centraway Tst Diamond Grp. Hammerson Properties  
**DIVIDEND & INTEREST PAYMENTS-**  
 Abbott Mead Vickers 2.4p Bank of China Ftg. Rate Nts. 1992 \$526.74 Black (Peter) 1.75p Britannia Arrow 2.3p Christianie Bank OG Kreditkasse Ftg. Rate Sub. Nts. Oct. 1997 \$536.37 Church & Co. 3p Daniels (S.) 1.25p Die Erste Osterreich Spar-Casse Sub. Ftg. Rate Nts. Apr. 1992 \$538.37 Hughes Food 1.5p Johannesburg Cons. 1500cts. Nat West Finance Gtd. Ftg. Rate Cap. Nts. 2005 \$526.74 Persimmon 2p Raglan Property 0.185p Scottish Eastern Inv. Tst. 1.15p Texas Instruments 18cts. Wilson (Connolly) 1.15p  
**TOMORROW**  
**COMPANY MEETINGS-**  
 Gold Greenless Trott, Le Meridien Piccadilly Hotel, W., 11.00  
 MAI, International House, World Trade Centre, E., 12.00  
 Malmet Hldgs., Pennine Hill National Hotel, Ainley Top, Huddersfield, 12.00  
 Osprey Comms., 9, Moorfields Highwalk, E.C., 10.00  
 Precious Metals Tst., 15, St. James's Place, S.W., 3.00  
 Waterman Partnership Hldgs., Apothecaries Hall, Blackfriars Lane, E.C., 12.00  
**BOARD MEETINGS-**  
 Cooper (Frederick) Ensign Tst. Pressac ST. Inves Scottish Metropolitan Property Wolseley Interim. Boxmore Intl. Chestport Racecourse Donistron Intl. FR Group

Ingham (George) Polymark Intl. Shell Oil Co. Value & Income Vivat Hldgs.  
**DIVIDEND & INTEREST PAYMENTS-**  
 Berkeley Govett 6cts. Border Television 1.2p Bristol & West Bldg. Society Ftg. Rate Nts. 1992 £178.01  
 Britannie Bldg. Society Ftg. Rate Nts. 1998 \$255.4  
 Co-operative Bank Sub. Ftg. Rate Nts. 2000 £178.01  
 Harbors Grp. 0.1p Industrias Penoles Ftg. Rate Nts. 1989 \$255.58  
 Lloyds Bank Serie A Var. Rate Sub. Nts. 1998 \$356.03  
 MTM 1.4p Mezzanine Capital BDS Ftg. Rd. Pl. 3867cts. Osprey Comms. 2.4p  
**WEDNESDAY OCTOBER 25**  
**COMPANY MEETINGS-**  
 Davies (D.V.), Barber-Surgeons Hell, Monkwell Square, E.C., 11.00  
 Merivale Moore, Savoy Hotel, Strand, W.C., 12.00  
 Triton Europe, Stationers' Hall, Ave Meria Lane, E.C., 11.30  
**BOARD MEETINGS-**  
 Alva Inv. Tst. Barrett (Henry) Overseas Inv. Tst. Interim. Atlantic Resources Chevron Corp. Elliott (B.) English Nat. Inv. Jacob (W. & R.) Mezzanine Capital & Income Plastisac Shiloh Sotheby's Hldgs. Upton & Southern Usher Walker Walker Greenbank  
**DIVIDEND & INTEREST PAYMENTS-**  
 Bankers Tst. New York 52cts. Cadbury Schweppes 9% 1st Mtg. Db. 1988/93 3.477pc. Cannon Street Inv. 3.3p Conversion 9 1/2% 2004 4 1/2pc. Exchequer 11% 1991 5 1/2pc. General Electric 41cts. Manchester (City of) 11.5% Rd. 2007 5 1/2pc. Manufacturers Hanover 82cts. Murray Income Tst. 4.7p Precious Metals Tst. 0.55p Psion 1p Serco Grp. 3p TSB Gilt Fd. Ptg. Rd. Pl. (Class B) 1p Treasury 10% Cv. 1990 5pc. Westminster & Country Props. 12p  
**THURSDAY OCTOBER 26**  
**COMPANY MEETINGS-**  
 CALA, 42, Colinton Road,

Trade fairs and exhibitions: UK

**Current**  
 London Motor Fair (01-385 1200) (until October 29) Earls Court  
**Current**  
 Home Interiors Exhibition (01-385 1200) (until October 26) Olympia  
**October 24-26**  
 International Leisure Business Week Exhibition (0872 372842) NEC, Birmingham  
**October 24-26**  
 Omnic: The fibre optics users exhibition and conference (0223 242945) Barbican Exhibition Hall, London  
**October 25-29**  
 National Knitting Exhibition (0872 701370) NEC, Birmingham  
**November 2-5**  
 London Money Show - MONEY (01-940 2244) Olympia  
**November 7-9**  
 International Banking Exhibition (01-749 9335) Barbican Exhibition Hall,

Business and management conferences

**October 24-25**  
 International Business Communications: Third annual conference on the management and marketing of unit trusts (01-637 4383) London Marriott Hotel, W1  
**October 27**  
 CBI Conferences: Manufacturing: Maintaining the momentum (01-379 7400) London  
**October 30**  
 The Watt Committee on Energy: Energy: Today's decisions, Tomorrow's world (01-379 6875) Guildhall, London  
**October 30**  
 The Institution of Mining and Metallurgy: Mining finance (01-590 3302) London  
**October 31-November 2**  
 Blenheim Queensdale: UK national conference on paperless trade (01-727 1929) Queen Elizabeth II Conference Centre  
**October 31-November 2**  
 Financial Times City Seminar (01-225 2323) Plaisteads Hall, City of London  
**November 2**  
 Concorde Services: Advertiser supported TV; threat or opportunity? (01-743 9105) Hilton Hotel, London  
**November 3**  
 The Chartered Institute of Management Accountants: Practical pricing policies (01-637 2311) Crownes Plaza Hotel, Manchester  
**November 6-7**  
 Financial Times Conferences: Anyone wishing to attend any of the above events is advised to telephone the organisers to ensure that there have been no changes to the details published

Overseas exhibitions

**Current**  
 International Robotics, CAD/CAM, Automation Engineering Exhibition - PRODUCTIONS (01-225 5565) (until October 26) Paris  
**Current**  
 International Electronics, Computers, Materials and Semiconductors Exhibition - IECM (01235 2339) (until October 27) Beijing  
**October 31-November 2**  
 International Clothing Textiles Trade Fair - INTERSTOFF (01-784 0543) Frankfurt  
**November 8-11**  
 International Office Environment Exhibition (01-486 1951) Tokyo  
**November 14-15**  
 International Maritime Equipment and Inland Shipping Exhibition (01-485 7977) Amsterdam  
**November 15-19**  
 International Machine Tools and Metalworking Trade Exhibition and Conference - 'THAI METALEX (0494 729405) Bangkok  
**November 21-25**  
 Furniture and Woodworking Machinery Show (01-379 0765) Taipei

PARLIAMENTARY

**Today**  
 Commons: Social security questions. Children Bill, remaining stages. Lords: Local Government and Housing Bill, report.  
**Tomorrow**  
 Commons: Defence questions. Opposition motion on interest rates and economic policy. Children Bill, remaining stages. Lords: Local Government and Housing Bill, report.  
**Wednesday**  
 Commons: Foreign and Commonwealth questions. Companies Bill, remaining stages. Lords: Local Government and Housing Bill, report.


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NEW ISSUE These Bonds having been sold, this announcement appears as a matter of record only. SEPTEMBER 1989





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RASFIN

**ACCEPTANCE FORMS MUST BE LODGED AT THE BANK OF ENGLAND, NEW CHANGE, LONDON, EC4M 9AA NOT LATER THAN 10.00 A.M. ON TUESDAY, 14TH NOVEMBER 1989, OR AT ANY OF THE BRANCHES OR AGENCIES OF THE BANK OF ENGLAND NOT LATER THAN 3.30 P.M. ON MONDAY, 13TH NOVEMBER 1989.**

**OFFER OF CONVERSION TO HOLDERS OF 92 per cent CONVERSION STOCK, 2006 TO CONVERT INTO 9 per cent TREASURY LOAN, 2008**

Application will be made to the Council of The International Stock Exchange for 9 per cent Treasury Loan, 2008 issued as a result of this conversion to be admitted to the Official List.

1 THE GOVERNOR AND COMPANY OF THE BANK OF ENGLAND are authorised to invite holders of 92 per cent Conversion Stock, 2006 to convert all or part of their holdings into 9 per cent Treasury Loan, 2008 on 15th November 1989 at the rate of £105 nominal of 9 per cent Treasury Loan, 2008 per £100 nominal of 92 per cent Conversion Stock, 2006.

2 Holders who do not wish to convert any part of their holding should do nothing.

3 Registered holders of 92 per cent Conversion Stock, 2006 at the close of business on 11th October 1989 who exercise the option to convert on 15th November 1989 will receive the interest payment due on 15th November 1989. Interest at the rate of £3.6740 per £100 nominal of 9 per cent Treasury Loan, 2008 will be paid as on 13th April 1990 in respect of amounts of that Loan issued as a result of the conversion.

4 Conversion will be into registered stock of 9 per cent Treasury Loan, 2008 which, subject to the provisions contained in this notice, will rank equally in all respects with amounts of the Loan already issued and will be subject to the provisions of the Stock Transfer Act 1982 and 1983. Holders of 92 per cent Conversion Stock, 2006 in respect of which the conversion option is exercised will be surrendered free from all liens, charges and encumbrances and with all the rights now or hereafter attaching to them except the right to receive the interest payment due on 15th November 1989.

**Method of acceptance**

5 Copies of this notice and acceptance forms for completion are being sent by post to holders of 92 per cent Conversion Stock, 2006, in the case of joint accounts, the forms are being sent to the first of the holders whose registered address is in the United Kingdom (or, if none has such an address, to the first-named holder). Holders who wish to convert all or part of their holdings should complete the acceptance form. Stock resulting from this conversion may be added to existing holdings of 9 per cent Treasury Loan, 2008.

6 Completed acceptance forms with stock certificates must be lodged at the Bank of England, New Change, London, EC4M 9AA not later than 10.00 A.M. ON TUESDAY, 14TH NOVEMBER 1989, or at any of the Branches or Agencies of the Bank of England not later than 3.30 P.M. ON MONDAY, 13TH NOVEMBER 1989. The Bank of England will acknowledge receipt of acceptance forms.

7 If a holder wishes to convert but cannot obtain an essential signature or document by 14th November 1989, the acceptance form, completed so far as possible, should be lodged in accordance with paragraph 6 above, accompanied by a letter from a bank solicitor or other professional adviser giving the reason for the acceptance being incomplete and undertaking to put it in order as soon as possible; it may then be possible to give effect to the acceptance. If there is insufficient time for the acceptance to be lodged before the close of the offer, the holder may notify acceptance by telex (telex number 885001; answerback 885001 BKENG) quoting brief particulars to identify the account and specifying the amount of 92 per cent Conversion Stock, 2006 to be converted; this should be followed without delay by a completed acceptance form and the certificates.

**Arrangements for conversion**

8 Up to and including 15th November 1989 holders in respect of which the conversion option has been exercised will be known as 92 per cent Conversion Stock, 2006 "Assented"; and from 16th November 1989 until 9th March 1990 new holders of 9 per cent Treasury Loan, 2008 issued on conversion will be known as 9 per cent Treasury Loan, 2008 "B". Certificates for the new holdings of 9 per cent Treasury Loan, 2008 "B" will be issued as soon as possible after 15th November 1989.

9 Transfers of 92 per cent Conversion Stock, 2006 for which stock transfer forms are lodged for registration up to 3.00 p.m. on 10th November 1989 will carry the option to convert into 9 per cent Treasury Loan, 2008 on 15th November 1989. Transfers of 92 per cent Conversion Stock, 2006 "Assented", lodged for registration up to 3.00 p.m. on 10th November 1989, should be accompanied by the receipt of the acceptance form or, if the acknowledgment has been lodged with an earlier transfer of the Stock, by the receipt issued for that transfer.

10 Stock transfer forms will be accepted for certification in respect of 92 per cent Conversion Stock, 2006 and 9 per cent Conversion Stock, 2006 "Assented" until normal deadlines for certification on 10th November 1989 but they must be relogged by 3.00 p.m. that day if registration in the same form is desired. Stock transfer forms in respect of 92 per cent Conversion Stock, 2006 "Assented" lodged for certification on the 13th and 14th November 1989 will be certified in that form; on the lodging of such transfers for registration the transferees will be registered as holders of the appropriate amounts of 9 per cent Treasury Loan, 2008 "B".

11 The interest due on 13th April 1990 will be paid separately on holdings of the existing 9 per cent Treasury Loan, 2008 and on holdings of 9 per cent Treasury Loan, 2008 "B" at the close of business on 9th March 1990; consequently, interest mandating authorities for income tax exemption and other notifications recorded in respect of existing holdings of 9 per cent Treasury Loan, 2008 will not be applied to the payment of interest due on 13th April 1990 on holdings of "B" stock.

12 Where the conversion option has been exercised, any instructions for the payment of interest registered in respect of a holding of 92 per cent Conversion Stock, 2006 will be applied to the new holding of 9 per cent Treasury Loan, 2008 "B". Similarly, where instructions have been given by the Inland Revenue authorities for interest on the holding of 92 per cent Conversion Stock, 2006 to be paid without deduction of income tax, the instructions will be applied to the new holding of 9 per cent Treasury Loan, 2008 "B".

13 Transfers of 9 per cent Treasury Loan, 2008 "B" may be lodged at the Bank of England for registration in that form up to 7th March 1990. After that date, for purposes of certification, the "B" stock will not be distinguished from the existing 9 per cent Treasury Loan, 2008. From the opening of business on 12th March 1990, the "B" stock will be amalgamated with 9 per cent Treasury Loan, 2008.

14 Her Majesty's Treasury have directed that Section 471 of the Income and Corporation Taxes Act 1988 (which relates to the treatment for taxation purposes of financial concerns whose business consists wholly or partly in dealing in securities) shall apply to exchanges of securities arising from this offer.

**Particulars of the issue of 9 per cent Treasury Loan, 2008**

15 The prospectus for 9 per cent Treasury Loan, 2008 dated 5th February 1987 included the following provisions:

(i) The Loan is an investment falling within Part II of the First Schedule to the Trustee Investments Act 1961, subject as regards securities payable to bearer to the provisions of Section 7 of the Trustee Act 1925. The principal of and interest on the Loan is a charge on the National Loans Fund, with recourse to the Consolidated Fund of the United Kingdom.

(ii) The Loan will be repaid at par on 13th October 2008.

(iii) The Loan is issued in the form of stock which is registered at the Bank of England or at the Bank of Ireland, Belfast, and is transferable, in multiples of one penny, by instrument in writing in accordance with the Stock Transfer Act 1982. Stock registered at the Bank of England held for the account of members of the Central Gilt Office Service is also transferable, in multiples of one penny, by exempt transfer in accordance with the Stock Transfer Act 1982 and the relevant subordinate legislation. Transfers are free of stamp duty. Interest is payable half-yearly on 13th April and 13th October. Income tax is deducted from payments of more than £5 per annum. Interest payments are transmitted by post.

(iv) Stock may be exchanged into bonds to bearer which are available in denominations of £100, £200, £500, £1,000, £5,000, £10,000 and £50,000. Bonds are free of stamp duty. Stock is interchangeable with bonds without payment of any fee. Interest on bonds to bearer, less income tax, is paid by coupon.

(v) Stock and bonds of this issue and the interest payable thereon is exempt from all United Kingdom taxation, present or future, so long as it is shown that the stock or bonds are in the beneficial ownership of persons who are neither domiciled nor ordinarily resident in the United Kingdom of Great Britain and Northern Ireland.

(vi) Further, the interest payable on stock or bonds of this issue is exempt from United Kingdom income tax, present or future, so long as it is shown that the stock or bonds are in the beneficial ownership of persons who are not ordinarily resident in the United Kingdom of Great Britain and Northern Ireland.

(vii) For the purposes of the preceding paragraphs, persons are not ordinarily resident in the United Kingdom if they are regarded as not ordinarily resident for the purposes of United Kingdom income tax.

(viii) Applications for exemption from United Kingdom income tax should, in the case of interest on stock, be made in such form as may be required by the Commissioners of Inland Revenue. Bearer bond coupons are paid without deduction of United Kingdom income tax if accompanied by a declaration of ownership in such form as may be required by the Commissioners of Inland Revenue. The appropriate forms may be obtained from the Inspector of Foreign Dividends, Inland Revenue, Lynnwood Road, Thames Ditton, Surrey, KT7 0DP.

(ix) These exemptions do not entitle a person to claim repayment of tax deducted from interest unless the claim to such repayment is made within the time limit provided for such claims under income tax law under the provisions of the Taxes Management Act 1970, Section 43(1), no such claim will be outside this time limit if it is made within six years from the date on which the interest is payable. In addition, these exemptions do not apply so as to exclude the interest from any computation for taxation purposes of the profits of any trade or business carried on in the United Kingdom. Moreover, the allowance of the exemptions is subject to the provisions of any law, present or future, of the United Kingdom directed to preventing avoidance of taxation by persons domiciled, resident or ordinarily resident in the United Kingdom, and, in particular, the interest is not exempt from income tax where, under any such provision, it falls to be treated for the purposes of the Income Tax Acts as income of any person resident or ordinarily resident in the United Kingdom.

Additional copies of this notice, the particulars of 9 per cent Treasury Loan, 2008 and forms for the acceptance of the conversion offer may be obtained at the New Issues Counter, Bank of England, New Change, London, EC4M 9AA; at the Central Gilt Office, Bank of England, 1 Bank Buildings, Princes Street, London, EC2R 8EU, or at any of the Branches or Agencies of the Bank of England; at the Bank of Ireland, Moyness Buildings, 1st Floor, 20 Collier Street, Belfast, BT1 5BN; or at any office of The International Stock Exchange in the United Kingdom. Members of the Central Gilt Office Service may obtain further guidance about the arrangements set out above in relation to their accounts by contacting the Central Gilt Office, Bank of England.

STOCKHOLDERS UNCERTAIN AS TO THE BEST COURSE TO FOLLOW SHOULD CONSULT THEIR STOCKBROKER, BANK MANAGER, SOLICITOR, ACCOUNTANT OR OTHER PROFESSIONAL ADVISER.

Government Statement: Attention is drawn to the statement issued by Her Majesty's Treasury on 29th May 1985 which explained that, in the interest of the orderly conduct of fiscal policy, neither Her Majesty's Government nor the Bank of England or their respective servants or agents undertake to disclose tax changes decided on but not yet announced, even where they may specifically affect the terms on which, or the conditions under which, the further amount of 9 per cent Treasury Loan, 2008 is issued or sold by or on behalf of the Government or Bank; that no responsibility can therefore be accepted for any omission to make such disclosure; and that such omission shall neither render any transaction liable to be set aside nor give rise to any claim for compensation.

BANK OF ENGLAND  
LONDON  
20th October 1989

**APPOINTMENTS**

**GrandMet management moves**



Mr David Nash (left), GrandMet's new group finance director, and Mr David Simon (right), non-executive director.

NEW FINANCE directors have been appointed at two of Britain's most aggressive companies, writes Lisa Wood. Mr David Nash, finance director of CADBURY SCHWEPPE, the soft drinks and confectionery group, is joining GRAND METROPOLITAN, the drinks and retailing group, to take up the same post there. He will replace Mr Clive Strowger, who combined his post of finance director with responsibility for retailing and property. Mr Strowger, who earlier this year publicly stated that he intended to leave his post, will leave GrandMet next spring. Mr Nash will be replaced at Cadbury Schweppes by Mr Neville Bain, who, as managing director of Cadbury's confectionery division, has over the past three years been responsible for several new confectionery acquisitions in Cadbury which is now concentrating on confectionery and soft drinks. Mr Nash has been finance director at Cadbury Schweppes

during one of the most active periods of the group's development and profits growth. Cadbury said "David Nash has made a substantial contribution to the growth and development of the business over the past 2 1/2 years and his board colleagues wish him well in his new role." At Grand Metropolitan his job as dedicated finance

director will include groupwide functional responsibility for accounting and financial control, treasury, tax, systems and investor relations. Mr David Simon, deputy chairman elect and chief financial officer at BP is will become a non-executive director of the brewing and retailing group from November 1.

Mr Robert Gardner has been appointed property director for the Channel Tunnel project on BRITISH RAIL's property board.

SWISS CANTOBANK (INTERNATIONAL), London branch, has appointed Mr E.E. Staehli as general manager, and executive director of the bond and equity trading arm.

Mr Andrew Peters has been appointed managing director of INTEGRAL TECHNOLOGY, a Third Wave Group company. He was a director of SD-Scicon.

Mr John Milne, chairman of Birc Circle Industries, and of Birc, is joining the board of AVON RUBBER as a non-executive director on November 1.

Mr John Ellis has been appointed managing director of CROWN UNIT TRUST SERVICES, a wholly-owned subsidiary of Crown Financial Management.

Mr Keith Jacks has been appointed business development director of KLEINWORT BENSON INVESTMENT MANAGEMENT. He was a director of Lloyds Investment Management, and Lloyds

Swiss Cantobank Securities. Mr S.P. Cossins becomes deputy general manager and senior manager operations, and company secretary of the bond trading arm. Mr Staehli and Mr Cossins join from BSI - Banca della Svizzera Italiana. Mr E.E. Staehli is made senior manager - commercial banking. He was capital markets director, ANZ McLaughlin.

Mr Andrew Peters has been appointed managing director of INTEGRAL TECHNOLOGY, a Third Wave Group company. He was a director of SD-Scicon.

Mr John Milne, chairman of Birc Circle Industries, and of Birc, is joining the board of AVON RUBBER as a non-executive director on November 1.

Mr John Ellis has been appointed managing director of CROWN UNIT TRUST SERVICES, a wholly-owned subsidiary of Crown Financial Management.

Mr Keith Jacks has been appointed business development director of KLEINWORT BENSON INVESTMENT MANAGEMENT. He was a director of Lloyds Investment Management, and Lloyds

Merchant Bank. Mr Peter Bebb joins from James Martin Associates as business systems director. Mr Kenneth King becomes director, international equity research and portfolio management. He was an executive director at Rothschild Asset Management Holdings.

DAWSON KEITH, Havant, part of the Associated British Engineering Group, has appointed Dr Max Wilson as managing director. He was customer services director, Chloride Power Electronics.

Mr Malcolm Hatch has been appointed executive sales director of BRIDLINGTON SLATE, Kirby-in-Furness. He was group export sales manager.

Mr John Crozier, a director of Rex Stewart Group, and chairman and chief executive of the Rley Group of human resources companies, has joined the board of LOPEX which recently acquired the Rex Stewart Group.

VICTORIA PALACE, which owns the freehold of the Victoria Palace Theatre, has appointed Mr Stephen Waley-Cohen as managing director. He was joint chief executive, Maybox Group.

We have been asked to point out that Mr Peter Whittam remains head of treasury at HILL SAMUEL BANK until a date to be decided, when Mr Philip Guy, who joins the bank on November 1, will take over.

**Senior posts at ICI Fibres**

Mr David Thackwray has succeeded Mr Hugh Corran as sales and marketing manager for ICI FIBRES' hosiery and knitting businesses, Harrogate. Mr Corran is to develop Fibres' international sales and marketing structure in Europe and overseas for the 1990s. Mr Thackwray was head of ICI (UK) Fibres, where he is succeeded by Mr Tony Pillar, who was responsible for carpet and technical products fibres.

Mr Jean Pierre Landre and Mr Michael Stoddard have been appointed directors of NU-SWIPT INTERNATIONAL.

Mr Keith Hather has been appointed managing director of PRIVATE ACCESS STORAGE, Newbury, Berks. He was responsible for property acquisition and national sales.

COOPERS & LYBRAND, Birmingham, has appointed Mr Jonathan Lander as audit and investigation partner, and Mr Kelvin Hard as director of organisation and human resources.

Mr Dennis E. Twist, commercial director, engineering and construction sector, John Brown, has been elected chairman of council, BRITISH CHEMICAL ENGINEERING CONTRACTORS ASSOCIATION.

MORGAN GRENFELL has appointed Mr Guy Dawson and Mr John Rawlings as deputy chairmen of Morgan Grenfell & Co.

Mr C.R. Millington has been appointed divisional director on the main board of JCT600. He was managing director of Bramall's Ford Dealers.

Mr J.C.S. Mott, who was chairman of May Gurney Holdings up to the recent management buy-out, has been appointed a non-executive director of MAY GURNEY GROUP, Norwich.

This announcement appears as a matter of record only.

**Solvay Finance (Bermuda) Ltd**

**USD 100,000,000**

**Multi Option Currency Facility (MOF)**

Arrangers  
Deutsche Bank AG, Succursale de Bruxelles  
Generale Bank, Brussels

Co-Lead Managers  
Deutsche Bank AG, Succursale de Bruxelles  
Generale Bank, Brussels  
International Westminster Bank PLC, Brussels Office

Managers  
Banque Nationale de Paris  
Barclays Bank PLC  
Societe Generale

Co-Managers  
Banque Generale du Luxembourg S.A.  
Kreditbank N.V.

Facility Agent  
Generale Bank, Brussels

Cash Tender Agent  
Deutsche Bank AG, Succursale de Bruxelles

Bill Tender Agent  
Deutsche Bank AG, London Branch

Swing-Line Agent  
National Westminster Bank PLC, New York Branch

**CANADA**

The Financial Times proposes to publish this survey on:

**7th November 1989**

For a full editorial synopsis and advertisement details, please contact:

**Stephen Dumar-Johnson**  
on 0101 212 752 4500

or write to him at:

**Financial Times**  
FT Publications Inc  
14 East 60th Street  
New York NY 10022

After you've taken care of business in London, Hyatt invites you to look after the corporate body.

In London, our hotel houses a rather exclusive health club called The Peak. It's equipped with saunas, steam, weights, running tracks and a view across London that will take away whatever breath you have left in you. All our hotels run to excellent fitness centres.

In Riyadh, there's an indoor jogging track, so as temperatures rise, you can still run, while in Cologne our fitness centre computer will write you a work-out programme according to your stamina. We call it the Hyatt Touch. It works out rather well.

**THE HYATT TOUCH**

HYATT HOTELS & RESORTS

For reservations at any of 50 Hyatt International Hotels or 100 Hyatt Hotels in North America, call Hyatt toll free, or your travel agent. Hotels in Europe, Africa and the Middle East: BIRMINGHAM (opening mid-1990) · BUDAPEST · CASABLANCA · COLOGNE · DELHI · DUBAI · GIZAN · JEDDAH · LONDON · MONTREUX · RABAT · RIYADH · YANBU.





FT UNIT TRUST INFORMATION SERVICE

For Current Unit Trust Prices on any telephone ring direct-0836 4 + five digit code (listed below). Calls charged at 38p per minute peak and 25p off peak, inc VAT

Main table containing unit trust information, organized into columns for various trust categories and individual trust names with their respective prices and details.

OTHER UK UNIT TRUSTS

Table listing other UK unit trusts, including names like 'Allied London Assurance', 'City of Edinburgh Life Assurance', and 'City of Westminster Assurance', along with their unit prices.

INSURANCES

Table listing insurance companies and their services, including 'AA Friendly Society' and 'Albany Life Assurance Co Ltd'.

FT UNIT TRUST INFORMATION SERVICE

For Current Unit Trust Prices on any telephone ring direct-0836 4 + five digit code (listed below). Calls charged at 38p per minute peak and 25p off peak, inc VAT

Main table listing various unit trusts with columns for Name, Price, and other financial details. Includes sub-sections for 'OFFSHORE AND OVERSEAS' and 'GUERNSEY (SB RECOGNISED)'. The table is organized into multiple columns, each representing a different category of unit trusts.

OFFSHORE AND OVERSEAS

GUERNSEY (SB RECOGNISED)

MANAGEMENT SERVICES

LUXEMBOURG (SB RECOGNISED)

JERSEY (SB RECOGNISED)

JERSEY (SB RECOGNISED)

JERSEY (SB RECOGNISED)

JERSEY (SB RECOGNISED)

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JERSEY (SB RECOGNISED)

FT UNIT TRUST INFORMATION SERVICE

Table of FT Unit Trust Information Service listing various unit trusts, their managers, and performance metrics.

LONDON SHARE SERVICE

Table of London Share Service listing various shares, their prices, and market data.

LOANS

Table of Loans listing various loan products and their terms.

FOREIGN BONDS & RAILS

Table of Foreign Bonds & Rails listing various international investment options.

AMERICANS

Table of Americans listing various American investment funds.

INT. BANK AND O'SEAS

Table of International Bank and Overseas listing various international bank investments.

CORPORATION LOANS

Table of Corporation Loans listing various corporate loan products.

COMMONWEALTH & AFRICAN LOANS

Table of Commonwealth & African Loans listing various investment options for these regions.

Money Market

Table of Money Market listing various money market instruments.

Trust Funds

Table of Trust Funds listing various trust fund products.

Bank Accounts

Table of Bank Accounts listing various bank account services.

UNIT TRUST NOTES

UNIT TRUST NOTES providing additional information and disclaimers for the unit trust services.

LONDON SHARE SERVICE

For Latest Share Prices on any telephone ring direct-0836 43 + four digit code (listed below). Calls charged at 38p per minute peak and 25p off peak, inc VAT

Main table containing various stock market listings categorized by industry: AMERICANS - Cont'd, BUILDING, TIMBER, ROADS, DRAPERY AND STORES - Cont'd, ENGINEERING - Cont'd, INDUSTRIALS (Misc.) - Cont'd, CANADIANS, BANKS, HP & LEASING, CHEMICALS, PLASTICS, FOOD, GROCERIES, ETC, BEERS, WINES & SPIRITS, HOTELS AND CATERERS, INSURANCES, and another INDUSTRIALS (Misc.) section.



LONDON SHARE SERVICE

For Latest Share Prices on any telephone ring direct-0630 43 + four digit code (listed below). Calls charged at 36p per minute peak and 25p off peak, inc VAT

LEISURE table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 112 Amstrad TV, 113 Amstrad Video, etc.

PAPER, PRINTING, ADVERTISING - Contd table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 117 Allied London Ltd, 118 Associated Newspapers, etc.

TEXTILES - Contd table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 119 BSA, 120 BSA, etc.

TRUSTS, FINANCE, LAND - Contd table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 121 BSA, 122 BSA, etc.

OIL AND GAS - Contd table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 123 BSA, 124 BSA, etc.

MINES - Contd table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 125 BSA, 126 BSA, etc.

MOTORS, AIRCRAFT TRADES table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 127 BSA, 128 BSA, etc.

PROPERTY table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 129 BSA, 130 BSA, etc.

TRANSPORT table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 131 BSA, 132 BSA, etc.

TRUSTS, FINANCE, LAND table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 133 BSA, 134 BSA, etc.

OVERSEAS TRADERS table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 135 BSA, 136 BSA, etc.

THIRD MARKET table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 137 BSA, 138 BSA, etc.

NEWSPAPERS, PUBLISHERS table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 139 BSA, 140 BSA, etc.

SHOES AND LEATHER table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 141 BSA, 142 BSA, etc.

SOUTH AFRICANS table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 143 BSA, 144 BSA, etc.

OIL AND GAS table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 145 BSA, 146 BSA, etc.

PLANTATIONS table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 147 BSA, 148 BSA, etc.

MINES table with columns: Market, Stock, Price, Bid, Offer, Dividend, Ex-Div, etc. Includes titles like 149 BSA, 150 BSA, etc.

REGIONAL & IRISH STOCKS, TRADITIONAL OPTIONS, MISCELLANEOUS, and other market-related information.

CURRENCIES, MONEY AND CAPITAL MARKETS

Table: POUND SPOT - FORWARD AGAINST THE POUND. Columns include Oct 20, Day's spread, Date, One month, % p.a., Three months, % p.a., and various currency rates.

Table: DOLLAR SPOT - FORWARD AGAINST THE DOLLAR. Columns include Oct 20, Day's spread, Date, One month, % p.a., Three months, % p.a., and various currency rates.

FT-ACTUARIES WORLD INDICES

Table: FT-ACTUARIES WORLD INDICES. Columns include National and Regional Markets, Figures in parentheses show number of stocks per grouping, US Dollar Index, Pound Sterling Index, Local Currency Index, and Year ago (approx).

MONEY MARKETS

Bank squeezes the sterling speculator. MONEY MARKETS were heavily influenced by volatility in equity trading last week, but the UK authorities took a much more cautious view than during the October 1987 share crash.

EURO-CURRENCY INTEREST RATES

Table: EURO-CURRENCY INTEREST RATES. Columns include Oct 20, Short term, 7 Day notice, One Month, Three Months, Six Months, and One Year.

EXCHANGE CROSS RATES

Table: EXCHANGE CROSS RATES. Columns include Oct 20, £, \$, DM, ¥, FF, S Fr, H Fl, Lin, C \$, and 0 Fr.

STERLING INDEX

Table: STERLING INDEX. Columns include Oct 20, Date, Previous, and various index values.

FT LONDON INTERBANK FIXING

Table: FT LONDON INTERBANK FIXING. Columns include Oct 20, 11.00 a.m. Oct 20, 3 months US dollars, and 4 months US Dollars.

MONEY RATES

Table: MONEY RATES. Columns include New York, Treasury Bills and Bonds, and various interest rate data.

CURRENCY MOVEMENTS

Table: CURRENCY MOVEMENTS. Columns include Oct 20, Bank of England, and various currency movement data.

LONDON MONEY RATES

Table: LONDON MONEY RATES. Columns include Oct 20, Overnight, 7 days notice, One Month, Three Months, Six Months, and One Year.

CURRENCY RATES

Table: CURRENCY RATES. Columns include Oct 20, Bank rate, and various currency exchange rates.

WEST GERMANY

The Financial Times proposes to publish this survey on: 30TH OCTOBER 1989. For a full editorial synopsis and advertisement details, please contact: DARREN DODD on 01-873 3472.

BANK OF ENGLAND TREASURY BILL TENDER

Table: BANK OF ENGLAND TREASURY BILL TENDER. Columns include Oct 20, Oct 13, and various treasury bill tender data.

WEEKLY CHANGE IN WORLD INTEREST RATES

Table: WEEKLY CHANGE IN WORLD INTEREST RATES. Columns include Oct 20, change, and various interest rate change data for London, Frankfurt, Tokyo, Brussels, Amsterdam, Chicago, and Japan.

SPONSORED SECURITIES

Table: SPONSORED SECURITIES. Columns include Capitalization, Company, Price, Change on week, Gross div (p), Yield % p.a., and P/E.

EUROPEAN OPTIONS EXCHANGE

Table: EUROPEAN OPTIONS EXCHANGE. Columns include Series, Vol, Last, and various option exchange data.

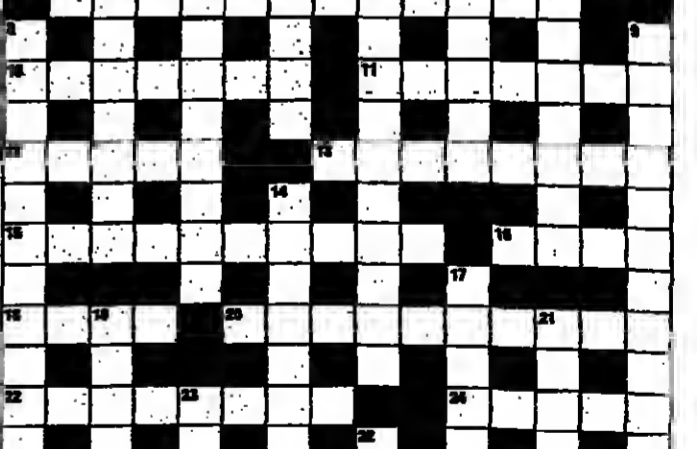
BASE LENDING RATES

Table: BASE LENDING RATES. Columns include Bank Name, Rate, and various base lending rate data.

LONDON RECENT ISSUES

Table: LONDON RECENT ISSUES. Columns include Issue, Date, Price, and various London recent issues data.

CROSSWORD



FIXED INTEREST STOCKS

Table: FIXED INTEREST STOCKS. Columns include Issue, Amount, Latest, 1989, and various fixed interest stocks data.

RIGHTS OFFERS

Table: RIGHTS OFFERS. Columns include Issue, Amount, Latest, 1989, and various rights offers data.

ACROSS: 1 Cosmetic protection for top ear that is reluctant to start in strategy manoeuvre surroundings (7,5). 2 Shuffy and lacking in time? (7). 3 Apart - see below (7). 4 Extra good to Frenchman and American (6). 5 Said to be crazy about songstress? (7). 6 Nothing in starchy bread you deduce? What about these, then? (13). 7 Mr Field's entry implying a cardinal relationship (8,5). 8 Investing a huge money in the public transport business gives one something to lean on (10). 9 Perfect soul taking time off in Lincoln (8). 10 High notes going to the head in the tropics (5). 11 Beethoven's fourth - swamped by his third - may excite or offend (7). 12 Pitch sensitivity shown by Duke with peculiar sound (8,8). 13 Distractedly yell - frantic about holding hotel (12). DOWN: 1 Competitive field in which head of dentistry appears with student describing certain glands (7). 2 A serving of the roast that can reduce resistance (8). 3 and 4 Direction of trade was unexpected (8). 5 Breaking lady on board? (10). 6 Lead out of cooler up town (5). 7 Said to be crazy about songstress? (7). 8 Nothing in starchy bread you deduce? What about these, then? (13). 9 Mr Field's entry implying a cardinal relationship (8,5). 10 Investing a huge money in the public transport business gives one something to lean on (10). 11 Top up support of winner in Australia (8). 12 Abandoned accountant? (8). 13 Like an emperor avoiding a risk? (7). 14 Learning about one's river (5). 15 The old-fashioned accompaniment to gin up in the Himalayas? (4). 16 Distraction! Last Saturday's prize puzzle will be published with names of winners on Saturday November 4.

JOTTER PAD

Members of British Merchant Banking & Securities Association. Deposit now 5.5% Swiss 8.5%. Top Tier £100k + instant access 12.5% Mortgage base rate 5. Demand deposit 9%. Mortgage 14.25% - 15%.

WORLD STOCK MARKETS

Table of stock market data for various countries including Austria, France, Germany, Italy, Sweden, and Japan. Columns include country, date, and price ranges for various indices and individual stocks.

Table of stock market data for Canada, including Toronto and Montreal. Columns include stock name, high, low, close, and change.

Table of stock market data for New York and other international indices. Includes DOW JONES, Standard and Poor's, and various regional indices.

Table of stock market data for Japan, listing various companies and their stock prices.

Table of stock market data for Australia, listing various companies and their stock prices.

Table of stock market data for New York Active Stocks, listing various companies and their stock prices.

Table of stock market data for Toronto, listing various companies and their stock prices.

Table of stock market data for Tokyo - Most Active Stocks, listing various companies and their stock prices.

Advertisement for '12 issues free when you first subscribe to the Financial Times'. Includes contact information for subscription services.

Advertisement for 'Travelling by air on business?' featuring flight services and contact information for various airlines.

4pm prices October 20

NEW YORK STOCK EXCHANGE COMPOSITE PRICES

High	Low	Stock	Chg.	High	Low	Stock	Chg.	High	Low	Stock	Chg.
23.14	22.78	AAI	+0.36	13.25	13.05	AAI	+0.20	13.25	13.05	AAI	+0.20
23.14	22.78	AAI	+0.36	13.25	13.05	AAI	+0.20	13.25	13.05	AAI	+0.20

Continued on Page 45

Microwave Ovens  
Easy to use,  
Reasonable to buy...

Video  
Audio  
Home Appliances

**SAMSUNG**  
Electronics

NYSE COMPOSITE PRICES

NASDAQ NATIONAL MARKET

4pm prices October 20

Table of NYSE Composite Prices listing various stocks with columns for stock name, price, and change.

Table of NASDAQ National Market listing various stocks with columns for stock name, price, and change.

AMEX COMPOSITE PRICES

4pm prices October 20

Table of AMEX Composite Prices listing various stocks with columns for stock name, price, and change.

Table of AMEX Composite Prices listing various stocks with columns for stock name, price, and change.

The Business Column

When IBM looks a little like BAT

WE DO NOT see anything in the fundamentals of our business that would cause us to change our strategy of investing in profitable growth...

Such 'jam tomorrow' statements could easily be dismissed as the sort of thing top managers say to reassure shareholders...

Core business

A less sympathetic analysis might conclude that profits do not rise twice. Indeed, the once invincible IBM today looks open to some of the more telling criticisms levelled at Britain's BAT...

IBM has sought to diversify within the electronics industry but, like BAT, it has had limited success in finding new ventures offering returns comparable to those on its core business...

Better returns

IBM's market capitalisation of almost \$60bn probably puts it beyond reach of a hostile bid. But the company faces a challenge not unlike that confronting BAT...

It is two decades since the Johnson administration launched an anti-trust action seeking to break up IBM on the grounds that it was excessively dominant...

As the eighth generation of a wealthy Dutch merchant dynasty, Mr Paul Fentener van Vlissingen and his family are pondering the difficult question that most such dynasties eventually face...

Should the family business - in this case SHV, a peculiar amalgam of energy activities and consumer goods - be floated publicly if none of the heirs wants to run it?

Combining an entrepreneurial flair and artistic inclination, they have always stood out in the relatively flat landscape of Dutch industrialists...

The family's trading empire began in 1790 with Spice Island textiles and German coal...

By the 1920s, SHV was biggest employer in The Netherlands, monopolising inland coal shipping with barges carrying grandiose names...

Around this time, Frits Fentener van Vlissingen, Paul's grandfather, co-founded Akzo, Hogovens and Fokker...

After the Second World War, Jan Fentener van Vlissingen, Paul's father, took over SHV while the van Beuningen, who shared his passion for art, departed...

Each company is built around a business (mainframe computers and tobacco) which is immensely profitable and generates huge amounts of cash...

IBM's market capitalisation of almost \$60bn probably puts it beyond reach of a hostile bid. But the company faces a challenge not unlike that confronting BAT...

MONDAY INTERVIEW

Staying privately Dutch

Paul Fentener van Vlissingen, the chief executive of SHV, talks to Laura Raun

Mr Fentener van Vlissingen is tall, lean and aristocratically handsome. Always impeccably attired, he sports a scarab ring on his little finger...

He is also a poet, short-story writer, conservationist and artist. He wanted to study philosophy but ended up doing economics at Groningen University...

My grandfather was a co-founder of KLM when no one thought airlines would be commercial. We try to have the same spirit at SHV...

SHV managers from around the world to corporate headquarters in Utrecht and had them write poems about SHV. They had to use a given animal to describe the company...

The family has created a labyrinth of foundations and holdings to maximise control of assets and minimise taxes...

Those who work for Mr Fentener van Vlissingen would no doubt endorse that he is "unusual". He once brought



'Once I had to fire a man . . . and he committed suicide.'

only to other heirs. SHV wants to remain privately held so it can pursue strategic policy without undue pressure from outside shareholders...

Energy activities account for about 35 per cent of SHV's revenues, and last year the company became a European leader in liquefied petroleum gas (LPG)...

SHV acquired 42 per cent of Calor by selling its oil and gas interests in the Brae fields of the North Sea and gained control of Primagaz...

This is an area intriguing the London stock market, as analysts try to fathom SHV's long-term intentions towards Calor, Burmah, owners of Castrol, and Premier Consolidated...

also is possible. Non-voting shares are forbidden in The Netherlands but are allowed in West Germany, where Nixdorf, Porsche and Bertelsmann have issued them...

Now equity financing is possible through Calor's listing on London's International Stock Exchange and Primagaz's listing on the Paris Bourse...

SHV has secret stakes in other companies in the UK, West Germany, Belgium and the US, according to Mr Fentener van Vlissingen...

Business acumen seems to run in the family blood. John Fentener van Vlissingen, who is 50, manages \$7bn (£4.4bn) of funds through his NORO investment company...

family fortune. The three brothers together hold at least 16 supervisory board seats at some of the Netherlands' most powerful companies...

Mr Paul Fentener van Vlissingen sees himself more in the mould of a Lord Hanson than a Sir James Goldsmith...

'Once I had to fire a man very early on in my career, and he committed suicide. It was a lesson for life. When you do things, even if the business rationale is there, you have always to realise that behind every business upheaval there is a human face...

You can't make money your first object in life,' he insists. 'There is a social responsibility, especially when you are known to be a wealthy family. We feel part of the world society, as an extremely wealthy family.'

Judicial inquiry must be thorough

There have been far too many miscarriages of justice - uncovered, let alone undiscovered - for anyone to be deluded into thinking that it is only the machinery for appellate review of criminal convictions or the proper evidential value to be attached to uncorroborated confessions that needs careful examination...

But that study and ensuing legislation were restricted to a revision of the established system of criminal procedure. It did not involve any questioning of the theoretical underpinning of the criminal justice system and it stopped short of any examination of the trial process...



for the individual. But that study and ensuing legislation were restricted to a revision of the established system of criminal procedure. It did not involve any questioning of the theoretical underpinning of the criminal justice system...

the process of criminal prosecution do not come under any kind of judicial scrutiny until trial, and then the court is to try the accused and not review ex post facto the conduct of the police or the prosecution...

The analysis of evidence accumulated from the moment of the crime is postponed until the day of trial. This is the major defect in the English system. Quite apart from this deferment of determining who is responsible for the criminal event under scrutiny, the accumulators of the evidence to be placed before the court of trial are left largely to their own devices...

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